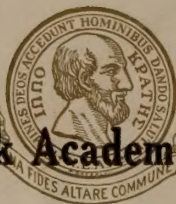




1-10-16-10M

—PRESENTED TO—

*S. L. A.*



**The New York Academy of Medicine**

By

*The Publisher*

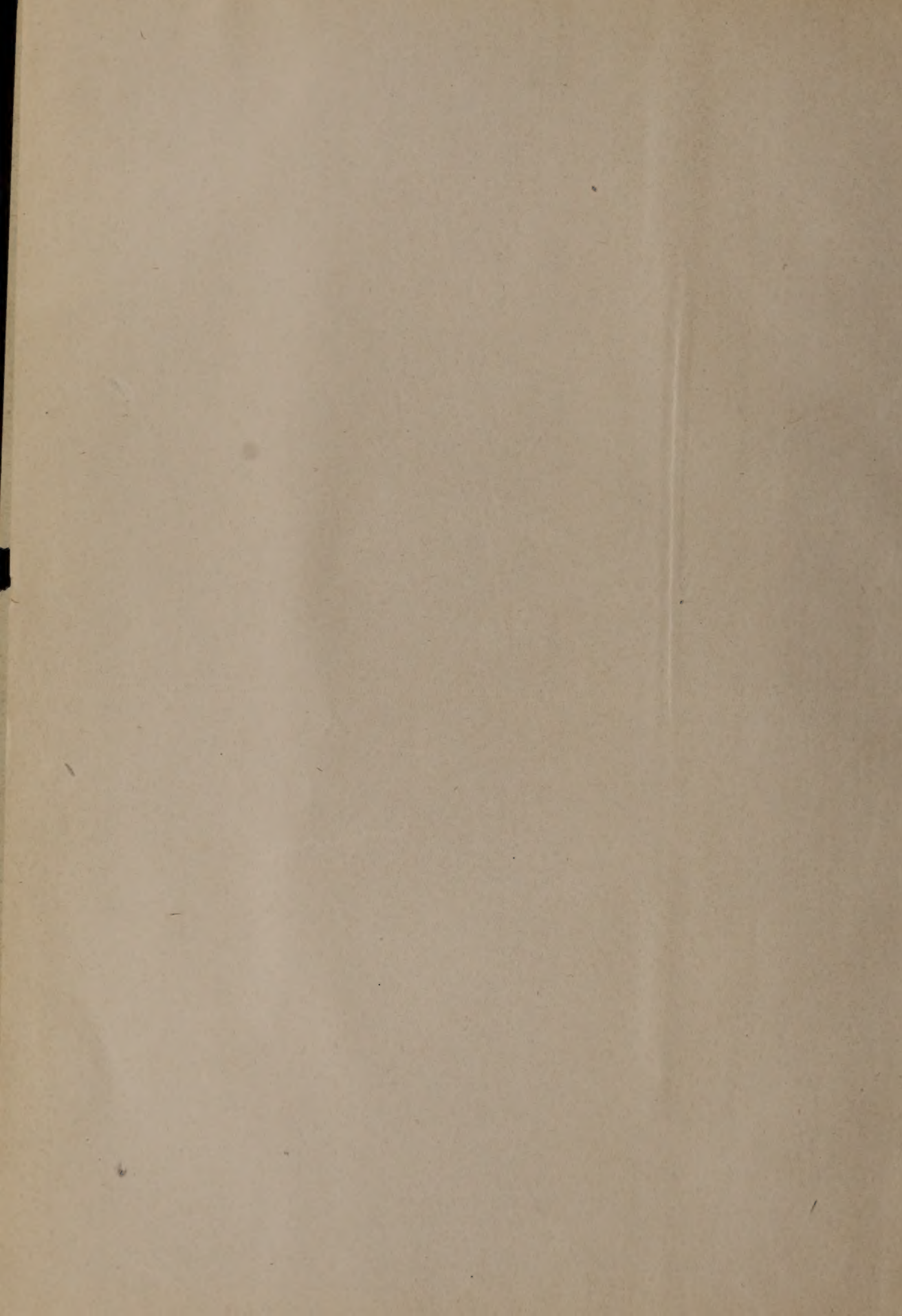














# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

The Illinois State Medical Society

PUBLISHED AT CHICAGO, ILL.

CLYDE D. PENCE, M. D., Editor

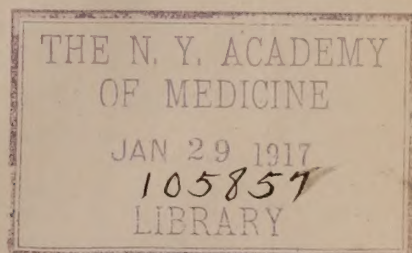
HENRY G. OHLS, M. D., Managing Editor



INDEX TO VOLUME XXX

---

JULY TO DECEMBER, 1916







# INDEX TO VOLUME XXX

July to December, 1916

This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including

the names of papers read, officers elected, etc., can be located in the proceedings under Societies. Editorials, News of the State, Marriages, Deaths, Public Health Items are classified under these headings. The subjects of editorials also appear alphabetically and are marked (E).

## A

About Medical Journals (E).....	365
Andrews, A. H. Discussion.....	246
Andrews, A. H. Paper.....	198
Anemia, Pernicious .....	112
Angina Pectoris. S. E. Munson, Springfield .....	315
Another Insinuation (E).....	293
Appendicitis and the Ordinary Sur- geon. Clark A. Buswell, Chicago	94
Appendicitis, Chronic, and the In- ternist. J. C. Friedman, Chicago	100
Auto Sparks and Kicks:	
Acid in Oil .....	300
Anti-freezing Mixtures.....	447
Chains .....	216
Front Wheel Tires.....	60
Fuel Economizer .....	60
Gasoline Pumps .....	216
Graphite .....	151
Hose .....	216
Interliners .....	151
Kerosene as Fuel.....	299
Lubrication .....	370
Mixing Gasoline and Kerosene....	60
One License for All States.....	299
Removing Scale from Radiator...	60
Simple Oil Test.....	300
Slandering the Ford.....	151
That Car .....	299
What of the Four?.....	60

## B

Bailey, Fred W. Discussion.....	64
Bainbridge, W. S. Paper.....	305
Banquet to Dr. Whalen (E).....	52
Baughner, A. H. Paper.....	132
Baxter, George Edwin. Discussion .....	100, 270
Baxter, George Edwin. Paper.....	5
Beck, Joseph C. Case.....	67
Beck, Joseph C. Discussion.....	67, 69
Beck, Joseph C. Paper.....	322
Becker, Wesley C. Paper.....	416
Black, Carl. Discussion.....	109
Blaine, E. Paper.....	338
Blood Ferments in Pregnancy. M. Lampert, F. H. Falls, et al., Chi- cago	22

## Book Notices:

American Year Book of Anesthe- sia and Analgesia. F. H. Mc- Mechan .....	455
Bacteriology. Arthur I. Kendall	224
Blood Pressure From the Clinical Standpoint. Francis Ashley Faught .....	455
Cancer of Skin. Henry H. Hazen	80
Chemistry, Manual of. W. Simon	455
Children, Diseases of. Edwin E. Graham .....	304
Constipation, Obstipation and In- testinal Stasis. Samuel Good- win Gant.....	455
Diabetes Mellitus. Elliott P. Jos- lin .....	224
Diseases of the Digestive Tract. A. E. Austin.....	80
Episcopal Hospital Reports.....	304
Eye, Diseases of. Geo. E. de Schweinitz .....	80
Gynecology. D. Todd Gilliam	224
Gynecology, Manual. M. J. Seif- ert .....	160
Hand, Infection of. A. B. Ka- navel .....	160
Hunger, Control of. A. J. Carl- son .....	384
Kinetic Drive. Geo. W. Crile....	79
Kings Official Route Guide.....	79
Mayo Clinic 1915 Papers.....	79
Medical Clinics of Chicago.....	223
Medical Clinics of Chicago.....	455
Murphy, John B., Clinics of...80,	304
Murphy, John B., Clinics of... 455	
Oral Anesthesia. K. H. Thoma..	384
Oral Abscesses. K. H. Thoma...384	
Otology Manual. C. E. Perkins.	304
Physicians' Visiting List for 1917	455
Practical Massage and Corrective Exercises. Hartvig Nissen.....	223
Practical Medicine Series. Chas. L. Mix.....	455
Practitioner's Visiting List.....	455
Pulmonary Tuberculosis, Rules for Recovery. Lawrason Brown...	79
Skin, Diseases of. Richard L. Sutton .....	79
Surgical Diseases of Spinal Cord. C. A. Elsberg.....	223
Syphilis. Lloyd Thompson.....	455
Therapeutics, Text Book. Hobart Amory Hare .....	384

Tobacco Habit Conquered. M. MacLevy .....	160
Venesection. W. F. Dutton....	224
Boot, George W. Case.....	67
Boot, George W. Discussion.....	68
Bowen, Robt. Paper.....	126
Bowes, L. M. Paper.....	408
Breakstone, Benj. H. Discussion..	234
Breakstone, Benj. H. Paper.....	243
Brennemann, Jos. Paper.....	265
Buckmaster, Frank. Paper.....	166
Burres, W. F. Discussion.....	85
Buswell, Clark A. Paper.....	94

## C

Campbell, Grace H. Paper.....	229
Cancer. Correspondence. Lieut. O. Hansen .....	147
Carmody, T. E. Paper.....	68
Cataract Extraction. William H. Wilder, Chicago .....	64
Cheney, H. W. Discussion....85,	270
Chicago the Great Medical Cen- ter. (E).....	418
Classification of Medical Institu- tions. Benj. H. Breakstone, Chi- cago .....	243
Clement, C. C. Paper.....	61
Colds, Effect in Nose and Throat of. Otis H. Maclay, Chicago.....	10
Collins, Clifford U. Discussion....	100
Collins, Clifford U. Paper.....	105
Colon, Surgery of, and Intestinal Stasis. A. J. Ochsner, Chicago..	86
Constipation, Treatment of. Philip Lewin, Chicago .....	360
Co-operation, County Societies and State Board of Health. C. St. Clair Drake, Springfield.....	344
Corneal Ulcers, Pneumococcal. W. H. Peck, Chicago.....	280
Correspondence:	
Dr. G. Frank Lydston.....	212
Corwin, A. M. Discussion.....	72
Cotton, Dr. A. C. (E).....	145
County Societies, How to Promote. Andy Hall, Mt. Vernon.....	354
Curing the Incurable. Robt. J. Folonic .....	150

## D

Davis, N. S. Paper.....	404
Deacon, Frank. Discussion.....	246



Deaf and Hard of Hearing. Jos. C. Beck, Chicago .....322

## Deaths:

Alpers, John H.; Rantoul.....159  
 Armstrong, John B.; Chicago... 454  
 Baker, Robert Wesley; Peoria...159  
 Bennett, John Y.; Leroy.....159  
 Brown, John Pressley; Benton.. 454  
 Buecking, Edward F., Chicago...222  
 Callaghan, James H.; Carthage...383  
 Carey, Warren; LaGrange..... 78  
 Casselberry, William Evans; Chicago .....159  
 Chester, Oscar Paul; Chicago... 159  
 Clark, Lewis H.; Decatur..... 78  
 Conibear, William Henry; Lakeland, Fla..... 454  
 Cotton, Alfred Cleveland; Chicago ..... 158  
 Dattelzweig, M. Fred; Chicago... 78  
 Dearborn, Henry Jonathan; Mount Sterling ..... 454  
 Deckard, John Preston; Mattoon. 78  
 Fitzgerald, Robert A.; Alton...383  
 Franklin, William Alvares; Chicago .....159  
 Franklin, William Riley; Rockford .....303  
 Gailey, Byron Sinclair; Jacksonville .....454  
 Goodner, George W.; Chicago...222  
 Gilman, John Ellis; Chicago.....159  
 Gwynn, Oscar J.; Granite City...159  
 Hackley, Levant Emery; Oak Park .....159  
 Haskell, William Abraham; Alton.159  
 Hendershott, Lynn W.; Mill Shoals .....159  
 Hill, Frank Knight; Rockford...383  
 Hilligoss, Erastus P.; Decatur...383  
 Holt, Frank Hammett, Chicago...222  
 Hosier, John W.; Spring Valley.383  
 Jordan, Frank A.; Pecatonica.... 78  
 Keller, William; Princeton.....303  
 Kelly, Patrick M.; Kankakee.... 78  
 Kerlin, Elijah Iles; Chicago.....384  
 Ketcham, Jennie D.; Godfrey...383  
 Latham, Chester H.; Pecatonica...383  
 Lee, Frederick W.; Tiskilwa.... 78  
 Luster, George Edward; Galesburg ..... 454  
 McCullough, John R.; Chicago... 78  
 McHugh, Melville George; Chicago .....222  
 McMann, William W.; Gardner. 454  
 Mobley, Albert T.; New Columbia .....222  
 Montgomery, John T.; Charleston ..... 79  
 Murphy, John Benjamin; Chicago.221  
 Paulson, David; Hinsdale.....383  
 Phillips, William Abbott; Evans-ton .....222  
 Plumbe, Edward O.; Chicago... 454  
 Rose, James H.; Harrisburg.....303  
 Rose, Marie F.; Harvey..... 454  
 Ross, George Whiting; Carrollton.303  
 Rowan, Peter Joseph; Chicago...222

Ruth, Oliver Jay; Colchester....303  
 Saltenberger, John; Millstadt... 454  
 Shore, Andrew Jackson; Sailor Springs ..... 454  
 Smith, Sterling Triest; Dunlap, Tenn. .... 78  
 Snyder, Omer C.; Chicago.....222  
 Spiron, Peter B.; Collinsville... 454  
 Sprafka, Andrew Nicholas; Chicago .....159  
 Stubbs, James Elwood; Chicago.. 78  
 Titus, Milton Bennett; Chicago...383  
 Traer, Upton E.; Evanston.....159  
 Trout, Elijah C.; Birds.....303  
 Vannice, James Ferguson; Bishop Hill ..... 78  
 Van Voorhis, John Philip; Fairdale .....159  
 Ware, Lyman; Chicago..... 78  
 Was, John William; Chicago...383  
 Way, Spencer Joseph; Kankakee.222  
 Weintraub Joachim B.; Chicago.383  
 Wilcox, Josiah L.; Springfield...384  
 Wood, Nathan N. E.; Chicago...303  
 Diabetes, Prognosis and Treatment. Solomon Strouse, Chicago.....332  
 Disease Control Run Riot. (E)...419  
 Diphtheria, Bacillus Carriers in. G. F. Ruediger, La Salle.....255  
 Disease, Fundamental Causes of. W. S. Bainbridge, New York.305  
 Drake, C. St. Clair. Discussion...254  
 Drake, C. St. Clair. Paper.81, 235, 344  
 Dropsies, a Restricted Milk Diet for the Removal of. N. S. Davis, Chicago ..... 404  
 Dunn, J. W. Discussion.....356  
 Dyas, Frederick. Discussion.....139

## E

Eastman, Eugene Holt. Paper....396  
 Ectropion, Plastic of Lid in. E. F. Snyder, Chicago.....186

## Editorials:

About Medical Journals.....365  
 Another Insinuation.....293  
 Banquet to Dr. Whalen..... 52  
 Chicago the Great Medical Center.418  
 Cotton, Dr. A. C..... 145  
 Disease Control Run Riot.....419  
 Farrell, Dr., a Candidate..... 208  
 Harrison Law, New Ruling....143  
 Health Insurance, Compulsory...417  
 Help Nominate the Doctors.....208  
 High Cost of Publishing.....365  
 Hospitalization of Typhoid Fever.293  
 Index for Telephone Book, Marginal Alphabetical.....420  
 Illinois State Medical Society in 1854 ..... 211  
 Illinois State Medical Society, Outing Program..... 53  
 Infantile Paralysis.....144  
 Malpractice Actions, Statute of Limitations in.....145  
 Medical Society, Birth of a New.419  
 Merry Christmas.....417

Modern Humanitarianism.....365  
 Murphy, Dr. John B.....210  
 Nance, Dr., a Candidate.....209  
 New Medical Society.....365  
 New Russian Publication.....294  
 Poliomyelitis, After Treatment of.419  
 Riley, James Whitcomb.....147  
 Rush Alumni Honor Prof. Haines 54  
 Social Insurance.....364  
 Social Insurance..... 421  
 Social Insurance Report.....417  
 Stubbs, Dr. Jas. E.....209  
 Vermilion County Medical Society Honors Dr. Coolley..... 52  
 Wine of Cardui Suit..... 53  
 Edmondson, E. E. Paper.....283  
 Edmonson, George S. Discussion..110  
 Efficiency in Medical Practice. Cecil M. Jack, Decatur.....271  
 Eisendrath, D. N. Discussion.98, 104, 137  
 Empyema in Childhood. A Merrill Miller, Danville.....138  
 Endocarditis, Malignant. A. H. Baugher, Chicago.....132  
 Epididymitis, Surgical Treatment of Acute. Charles M. McKenna, Chicago ..... 398  
 Ethmoiditis, Chronic; Treatment. Otis H. MacLay, Chicago.....342  
 Eustachian Tubes, Chronic Constriction of. A. S. Rochester, Chicago.195  
 Eye, Foreign Bodies in.....274  
 Eye, Injuries from Broken Lenses. F. B. Vreeland, Chicago..... 61  
 Eyeball, Penetrating Injuries of. Harry W. Woodruff, Joliet....183

## F

Faith, Thomas. Discussion..... 65  
 Falls, F. H. Paper.....208  
 Farrell, Dr., a Candidate. (E)....208  
 Farrell, P. J. H. Discussion....69, 85  
 Faucial Tonsil, Function of. Kenyon and Kradwell..... 72  
 Feces, Microscopical Examination of. S. M. Wylie, Paxton.....361  
 Ferguson, Harry F. Paper.....247  
 Fiegenbaum, E. W. Discussion...356  
 Fisher, Wm. A. Discussion..... 63  
 Fletcher, John R. Discussion..... 69  
 Foley, Thomas P. Paper.....349  
 Folonie, Robert J. Paper....145, 150  
 Forrester, C. R. G. Paper.....385  
 Fracture of the Os Calcis, Prevention of; Disability Following. C. R. G. Forrester, Chicago.....385  
 Freer, Otto T. Discussion..... 68  
 Friedberg, Stanton A. Paper....197  
 Friedman, J. C. Paper.....100  
 Frontal Sinus, Gumma of. Robert Sonnenschein, Chicago..... 67  
 Frontal Sinus, Surgical Anatomy. Geo. E. Shambaugh, Chicago.... 68

## G

Gastrorrhagia, Significance of. Vicarious. Smithies & Bowen, Chicago.126  
 Gehrmann, Adolph. Paper.....120



Gestation, Ectopic. Green and Moore, Chicago.....356  
 Glaucoma, Suture for. J. Whitefield Smith, Bloomington.....179  
 Gonococcus, Carriers of the. Eugene Holt Eastman, Chicago....396  
 Goodkind, M. L. Paper.....115  
 Gradle, Harry S. Case.....65  
 Green, G. W. Paper.....356  
 Grinstead, W. F. Discussion.....356  
 Grulee, Clifford C. Discussion....270

## H

Hall, Aandy. Paper.....354  
 Harrison Law, New Ruling (E)...143  
 Health Department under Commission Government. F. C. Vanderbilt, Bloomington.....240  
 Health Insurance, Compulsory. (E) 417  
 Hearing, Perception Organ of. Otto J. Stein, Chicago.....188  
 Heineck, A. P. Discussion.....99  
 Help Nominate the Doctors (E)...208  
 Hemenway, H. B. Discussion..246, 247  
 Herndon, R. F. Paper.....388  
 Hernia, Traumatic. C. W. Hopkins, Chicago.....89  
 Hewins, C. F. Paper.....264  
 High Cost of Publishing (E)....365  
 Hoffman, John R. Discussion....62  
 Hopkins, C. W. Paper.....89  
 Hospitalization of Typhoid Fever (E).....293  
 Hospitals, Convalescent. John A. Robison, Chicago.....233  
 Hypophysis, Decompression of. Otto J. Stein, Chicago.....70

## I

Illinois State Board of Health: Examination Reports.....56, 212, 366  
 Illinois State Medical Society, in 1854. (E).....211  
 Illinois State Medical Society, Official Minutes.....26  
 Illinois State Medical Society Outstanding Program (E).....53  
 Index for Telephone Book, Marginal Alphabetical. (E).....420  
 Index .....Opposite 456  
 Individuation in Study of Mental Disorders. Frank P. Norbury, Jacksonville .....310  
 Infantile Paralysis. (E).....144  
 Infantile Paralysis. C. F. Hewins, Loda .....264  
 Infections, Metastatic in Upper Respiratory Tract. W. J. Rideout, Freeport.....180  
 Insurance, Social.....421  
 Accident Insurance.....422  
 Accident, Relation of, to the Industries .....422  
 Amputations and Fractures.....426  
 Benefits of Insurance.....422  
 Commission on Industrial Relations, Report of.....423  
 Compulsory Insurance.....432  
 Compulsory Sickness Insurance. 422  
 Denmark, The Plan in.....428

Disability, Duration of.....426  
 England, Benefits in.....434  
 England's Problem.....427  
 European Profession, Struggles of the .....426  
 European Social Insurance.....421  
 Fees for Professional Service...429  
 Germany, Developments in.....427  
 Health Insurance Act, Proposed.437  
 Health Insurance in Relation to Public Dispensary.....442  
 Health Insurance in Relation to Public Health.....443  
 Health Insurance in the United States .....436  
 Health Insurance Law, Relation of Physician to.....440  
 Hospital and Institutional Treatment .....434  
 Hospital Service.....431  
 Industrial Insurance in the United States .....422  
 Insurance Companies, Commercial.436  
 Leipzig Regulations.....433  
 Malingering .....427  
 Maternity Insurance.....422  
 Old Age Insurance.....422  
 Payment per Case of Sickness Attended .....434  
 Physician, Free Choice of.....427  
 Physicians, Remuneration of.434, 441  
 Principles Applied.....421  
 Recovery, Who Shall Decide...441  
 Regulations for Medical Attendance .....435  
 Remuneration, Methods of....436  
 Social Conditions, New.....432  
 Social Insurance.....432  
 Specialist in Health Insurance Practice .....441  
 State Laws, Digest of Provisions in.....423  
 State Medical Associations.....429  
 Trade Unions, Benefits by....436  
 United States, The Effect in the.428  
 Intestinal Tæniasis in Chicago. Wesley C. Becker Chicago....416  
 Iris, Cyst of.....61

## J

Jack, Cecil M. Paper.....271  
 Jeffries, D. W. Paper.....22  
 Johnson, L. H. Paper.....411  
 Jordan, George T. Discussion....62

## K

Kanaval, Allen B. Paper.....110  
 Katz, H. B. Paper.....22  
 Keratitis Petrificans. Harry S. Gradle, Chicago.....65  
 King, C. B. Discussion.....115  
 King, R. Paper.....22  
 Kingery, C. M. Paper.....20  
 Kline, R. G. Paper.....22  
 Krafft, J. C. Discussion.....232  
 Kraus, Harry A. Paper.....18

Kreider, George N. Paper.....1  
 Kulasavicz, B. J. Paper.....22  
 Kutzenberger, H. P. Paper.....22

## L

Lampert, M. Paper.....22  
 Laryngoscopy, Indirect and Direct. Stanton A. Friedberg, Chicago...197  
 Larynx, Tumor of. J. C. Beck...67  
 Larynx, Tumor of. Norville H. Pierce, Chicago.....66  
 Lewin, Philip. Paper.....360  
 Localization of Foreign Bodies in Orbit. C. C. Clement, Chicago...61  
 Long, C. H. Paper.....200  
 Long, H. W. Paper.....286  
 Lupus of the Nose. George W. Boot, Chicago.....67  
 Luster, Robert D. Paper.....13

## M

Mack, Milton H. Discussion..105, 132  
 Maclay, Otis H. Paper.....10, 342  
 Maley, W. H. Discussion.....85, 110  
 Malingerers, Detection of. Carl B. Wagner, Chicago.....173  
 Malpractice Actions, Statute of Limitations in. (E).....145  
 Mann, A. L. Discussion.....246, 257  
 Marriages:  
 Anderson, Frank A.; Chicago....302  
 Apfelbach, George L.; Chicago...78  
 Atchley, Dana Winslow; New York .....333  
 Baumann, Theodore A.; DeLand. 78  
 Bishkow, Isadore Edward; Chicago .....454  
 Bookwalter, Carl Ferdinand; Chicago .....454  
 Boone, Howard Bradford; Chandelville .....454  
 Broudo, Philip Harman; Chicago.221  
 Charles, Thomas Goddell; Beards-town .....302  
 Day, Harry Levi; Bluffs.....383  
 Day, Harry Levi; Bluffs.....454  
 Drummy, Anthony Mathias; Lincoln .....383  
 Eaton, Roscoe Conkling; Chicago.383  
 Emmons, John Weston; Poplar Grove .....383  
 Freilich, Ellis Benjamin; Chicago.302  
 Gaston, M. Adelaide; Cerro Gordo.158  
 Gillam, Arthur Caldwell; Chicago.302  
 Goldsmith, Alexander Aaron; Chicago .....302  
 Greenman, Ernest Nelson; Kankakee .....157  
 Hagler, Arthur Lee; Springfield..383  
 Hall, Milton Weston; Evanston..157  
 Hardinger, Burt Horace; Gays..157  
 Hiskey, George Nye; Chicago....78  
 Huffaker, Columbus; Chrisman...157  
 Jones, Fred Wade; Edwardsville.157  
 Kenyon, Elmer Lawton; Chicago.454  
 Klontz, Clayton Wilson; Chicago.454  
 Lavieri, Jack Ralph; Chicago...302  
 Lewis, Ralston Irving; Glen Ellyn.302

Mayers, Lawrence Hempson, Chicago .....	157
McKelvey, Samuel Wheelers; Kan- kakee .....	221
Melroy, E. S.; Highland.....	157
Merbitz, Martin Henry; Chicago.....	302
Miller, Edward John; Chicago.....	221
Mitchell, Joseph R.; Chicago.....	454
Morrill, Frank Gillingham; Ha- vana .....	221
Park, Abraham Snell; Chicago.....	78
Perdue, William W.; Mobile, Ala.....	303
Peters, Charles Edward; Danville.....	158
Pettepiece, Thomas Arthur; Free- port .....	158
Ream, Walter Joseph; Ladd.....	78
Render, Carl Davis; Oak Park.....	302
Richardson, Bertram Arthur; Em- ington .....	221
Robb, Charles Albert; Rock Island.....	302
Sandberg, Karl F. M.; Chicago.....	454
Schuetzler, Arthur Frederick; Chi- cago .....	383
Sima, Charles Arthur; Chicago.....	454
Simmons, Jay Claude; Norris.....	383
Sullivan, Thomas John; Chicago.....	383
Van Kirk, John Albert; Watseka.....	454
Was, Francois John Theodorus; Chicago .....	78
West, Washington, Jr.; Belleville.....	157
White, Gilbert J.; Chicago.....	302
Wilkinson, Barclay; Chicago.....	454
Mastoid Disease, Discharge in. Al- bert L. Andrews, Chicago.....	198
Mastoid Disease, Skiagraph in.....	193
McBean, Geo. M. Discussion.....	71
McKenna, Charles M. Paper.....	398
Medical Inspection of Schools. Rob- ert D. Luster, Granite City.....	13
Medical Legislation. C. St. Clair Drake, Springfield.....	81
Medical Society, Birth of a New. (E) .....	419
Mercury Poisoning, a Case of Bi- chloride, Successfully Treated. Meyer S. Pedott, Chicago.....	410
Merry Christmas. (E).....	417
Meningitis, Suppurative. Norville H. Pierce, Chicago.....	66
Middleton, A. D. Paper.....	202
Military Preparedness from a Sur- gical Standpoint. George N. Krei- der, Springfield.....	1
Milk, Raw, in Feeding of Infants. Grace H. Campbell, Chicago.....	229
Miller, A. Merrill. Paper.....	138
Miller, D. W. Discussion.....	356
Modern Humanitarianism. (E).....	365
Moore, J. J. Paper.....	356
Multiple Sclerosis with Optic Atrophy. George F. Suker.....	66
Munson, Samuel. Discussion.....	137
Munson, S. E. Paper.....	315
Murphy, Dr. John B. (E).....	210

## N

Nance, Dr., a Candidate. (E).....	209
Nance, Willis O. Discussion.....	62
Naso-pharynx, Malignant Tumors of. E. P. Norcross, Chicago.....	71

Nelson, C. S. Paper.....	260
Nephritic Crisis. L. M. Bowes, Chicago .....	408
New and Non-official Remedies....	169, 222, 303
New and Non-official Remedies....	455
New Medical Society. (E).....	365
New Russian Publication. (E).....	294
News Notes.....	76, 155, 220, 301, 382
News Notes.....	452
Norbury, Frank P. Paper.....	310
Norcross, E. P. Paper.....	71
Nose, Examination of. C. H. Long, Chicago .....	200
Nose, Throat and Ear Infections, In- tracranial Complications of. Nor- val H. Pierce, Chicago.....	208
Nursing, Community. H. K. Scat- liff, Elgin.....	394

## O

Obligation of the State to the Grow- ing Child. Charles J. Whalen, Chicago .....	225
O'Byrne, C. C. Discussion.....	93, 105
Ochsner, A. J. Paper.....	86
Ochsner, E. H. Discussion.....	97
O'Hara, Fred S. Paper.....	140
Optic Nere, Inflammation of. George F. Suker, Chicago.....	61
Oral Cavity, Relation to Nose, Throat and Ear. T. E. Carmody, Denver, Colo.....	68

## P

Paralysis, Infantile Spinal. L. H. Johnson, Casey.....	411
Parkes, Wm. R. Discussion.....	139
Parrish, P. M. Paper.....	112
Peck, W. H. Paper.....	280
Pedott, Meyer S. Paper.....	410
Pence, C. D. Discussion.....	353
Percy, N. M. Paper.....	118
Personals .....	75, 154, 219, 300, 381
Personals .....	452
Peters, LeRoy S. Paper.....	258
Pettit, J. W. Discussion.....	234
Physicians' Accounts. C. M. King- ery, Chadwick.....	20
Pneumonia, a Clinical Study of Lobar, With Special Reference to Prognosis. Frederick Tice and R. F. Herndon, Chicago.....	388
Pierce, Norval H. Case.....	66
Pierce, Norval H. Discussion....	68
Pierce, Norval H. Paper.....	203
Pneumothorax, Artificial. LeRoy S. Peters, Albuquerque, N. M.....	258
Poliomyelitis. C. S. Nelson, Spring- field .....	260
Poliomyelitis, After-Treatment of. (E) .....	419
Postnasal Infection in Infants and Children. George Edwin Baxter, Chicago .....	5
Pregnancy, Blood Ferments in....	22
Pregnancy Complicated by Syphilis. Harry A. Kraus, Chicago.....	18
Printers' Ink in Organization. Thomas P. Foley, Chicago.....	349
Psychotherapy. H. W. Long, Elm- wood .....	286

## Public Health:

Birth and Death Registration In- creased .....	56
Birth and Death Registration Im- proving .....	445
Birth, Certificate of.....	445
Champaign and Urbana Survey.....	297
County Sanitarium Petitions.....	297
Cumberland County Sanitary Sur- vey .....	296
District Health Conferences.....	296
Elimination of Other Practition- ers .....	367
Health Officers Wanted.....	57
Health Survey of Cumberland County .....	149
Illinois Health Notes.....	445
Illinois P. H. and Welfare Asso- ciation .....	149
Important Decision Rests on Ac- tion of Physicians.....	368
Infantile Paralysis.....	148
Milk Sickness in Jasper and Grundy Counties .....	445
New Cards for Epidemic Investi- gations .....	215
New Circular on Tuberculosis.....	214
New Public Health in Illinois, The .....	367
New State Laboratory.....	296
Poliomyelitis in Illinois.....	294, 569
Poliomyelitis, After-Treatment of.....	444
Raising Standards of Medical Edu- cation .....	368
Sanatoria, Standard Plans for.....	445
State Troops and Health Safety..	58
Typhoid Fever at Elgin.....	214, 297
Typhoid Fever at Tuscola.....	67
Public Health Legislation. C. St. Clair Drake, Springfield.....	235

## R

Radium Therapy. Frank E. Simp- son, Chicago.....	123
Read, C. F. Discussion.....	85
Redeout, W. J. Paper.....	180
Riley, James Whitcomb. (E).....	147
Ritter, Martin. Discussion.....	284
Roberg, O. Theo. Discussion.....	109
Robertson, Charles M. Discussion. .....	68, 69, 71, 79
Robertson, John Dill. Discussion. .....	234, 246, 254, 257
Robison, John A. Paper.....	233
Rochester, A. S. Paper.....	195
Roentgenologist, Relation to Physi- cian and Surgeon. E. Blaine, Chicago .....	338
Root, H. E. Discussion.....	270
Ruediger, G. F. Paper.....	255
Rush Alumni Honor Prof. Haines. (E) .....	54

## S

Sala, E. M. Discussion.....	99
Scatliff, H. K. Paper.....	394
Schools, Medical Inspection of....	13
Sella Turcica Decompression. Geo. F. Suker .....	65



- Septum. See Submucous Operation.  
Shambaugh, George E. Discussion.. 67  
Shambaugh, George E. Paper...68, 193  
Sherman, G. H. Paper..... 14  
Simpson, Frank E. Discussion.... 10  
Simpson, Frank E. Paper.....123  
Skiagraph in Diagnosis of Mastoid Disease. George E. Shambaugh, Chicago .....193  
Sloan, E. P. Discussion.....309  
Smith, J. Whitefield. Paper.....179  
Smithies, Frank. Discussion.....142  
Smithies, Frank. Paper.....126  
Snydacker, E. F. Paper..... 186  
Social Insurance. (E).....364
- Society Proceedings:  
Adams County. July 10.....152  
October 9.....371
- Cook County:  
Chicago Medical Society.  
June 7..... 61  
October 4, 18, 25; Nov. 1.....372  
Chicago Medical Society; Nov. 8, 15, 22, 29.....448  
Englewood Branch, Annual Report ..... 73  
October 2.....372  
Chicago Ophthalmological Society. February 14; March 20. 61  
Chicago Ophthalmological Soc.; April 17.....448  
Chicago Laryngological & Otolological Society, March 21..... 69  
March 21—Cont.152  
April 18.....372  
May 22.....375
- De Kalb County; Oct. 27.....450  
Fulton County. July 27.....217  
October 3.....378  
Hancock County. October 2....379  
Henderson County; Nov. 14....451  
Iroquois-Ford Counties. June 6.. 73  
Sept. 5..300  
Jo-Daviess County. July 11....217  
Oct. 12.....379  
Macoupin County. April 25.... 74  
July 25.....218  
No date.....379
- Madison County. Notice of July Meeting .....153  
July 7.....218  
August .....219  
September .....379  
Madison County; Oct. 6.....451  
Morgan County. July 13.....153  
Oct. 19.....380
- Ogle County. May 3..... 74  
July 16.....219  
Oct. 18.....380
- Pike County. July 27.....153  
Oct. 26.....380
- Southern Illinois Medical Assn.; Nov. 2-3.....451  
Tazewell County. July 12.....154  
Vermilion County. June 19.... 74  
Winnebago County. October 10.381
- Social Insurance. (E).....364  
Social Insurance Report. (E)...417  
Social Insurance. (E).....421  
Soft Palate, Absence of. H. B. Young, Burlington, Iowa..... 69  
Sonnenschein, Robert. Case..... 67  
Spleen, Atypical Form of Disease of. Allen B. Kanaval, Chicago..110  
Splenectomy. M. L. Goodkind, Chicago .....115  
Splenectomy. N. M. Percy, Chicago ..... 118  
Splenectomy in Pernicious Anemia. P. M. Parrish, Decatur.....112  
Starvation, Therapeutic; in Infancy Joseph Brenemann, Chicago...265  
Stasis, Intestinal..... 86  
Stein, Otto J. Case ..... 70  
Stein, Otto J. Discussion ..... 72  
Stein, Otto J. Paper .....188  
Stillians, Arthur W. Discussion..126  
Strouse, Solomon. Paper.....332  
Stubbs, Dr. James E. (E).....209  
Submucous Operation, Improved Technique. Oliver Tydings, Chicago .....161  
Suker, George F. Case ..... 65  
Suker, George F. Discussion .... 65  
Suker, George F. Paper .....61, 173  
Surgery from a Patient's Viewpoint. Clifford U. Collins, Peoria.....105  
Surgery, Military..... 1  
Sweet, W. M. Discussion..... 63  
Syphilis and Carcinoma. George A. Torrison, Chicago..... 70  
Syphilis in Pregnancy..... 18
- T  
Tice, Frederick. Paper.....388  
Tonsil and Infection Sequences. Frank Buckmaster, Effingham...166  
Tonsil, Medico-Legal Aspect. Chas. J. Whalen, Chicago.....164  
Tonsil, Removal of Faucial. A. B. Middleton, Pontiac.....202
- Torrison, George A. Case..... 70  
Trachoma in Southern Illinois. E. E. Edmondson, Mt. Vernon....283  
Tuberculosis Notes. 55, 147, 213, 294, 369  
Tydings, Oliver. Paper.....161  
Typhoid Fever Epidemic at Old Salem. Harry F. Ferguson, Urbana .....247
- V  
Vaccine Therapy, Problem of. G. H. Sherman, Detroit, Mich.... 14  
Vaccines in Bacterial Localization. Adolph Gehrmann, Chicago.....120  
Vanderslice, J. W. Discussion...254  
Vandervort, F. C. Paper.....240  
Vermilion County Medical Society Honors Dr. Coolley. (E)..... 52  
Vesiculitis, Symptoms of Seminal, Indications for Operative Interference, With Case Reports and Results. Edward W. White, Chicago .....400  
Visual Fields, Value of. George F. Suker, Chicago.....173  
Vreeland, F. B. Paper..... 61
- W  
Wagner, Carl B. Paper.....178  
Wall, O. S. Discussion.....114  
Wells, H. P. Discussion ..... 63  
Wells, H. P. Paper .....274  
Whalen, Charles J. Paper....164, 225  
White, Edward W. Paper.....400  
Wiggins, J. L. Discussion.....104  
Wildner, William H. Paper..... 64  
Wine of Cardui Suit. (E)..... 53  
Wood, C. Martin. Discussion..137, 140  
Woodruff, Harry W. Paper....183  
Workmen's Compensation Laws: Effect on Medical Profession in Europe .....421  
New Law Based Not on Fault, but on Fact.....421  
Worthington, M. H. Discussion... 64  
Wylie, S. M. Paper.....361
- X  
X-Ray in Localization of Foreign Bodies in Eyeball. Hal P. Wells, Chicago .....274  
X-Ray Interpretation. Fred S. O'Hara, Springfield.....140
- Y  
Young, H. B. Case..... 69  
Younger, Charles B. Discussion... 9





# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXX

CHICAGO, ILL., JULY, 1916

No. 1

## MILITARY PREPAREDNESS FROM A SURGICAL STANDPOINT.\*

MY EXPERIENCE AS POST SURGEON AT CAMP  
TANNER DURING THE SPANISH-  
AMERICAN WAR.

GEORGE N. KREIDER, A. M., M. D., F. A. C. S.

First Lieutenant, Medical Reserve Corps, U. S. Army.

SPRINGFIELD, ILLINOIS.

The duty of the medical profession in any event of peace or war is to conserve life and minimize suffering. In war this duty is especially difficult and dangerous. All the more reason why we should acquit ourselves with credit.

It can not be denied that the history of wars in America has found the country unprepared with an army and the medical profession unprepared to give this army the best possible medical and surgical attention.

In the Revolutionary War the army was a shifting and undisciplined mass of men, without uniforms and improperly shod, poorly paid and fed. It is a wonder anything was accomplished. However, the individual soldiers were born with a gun in hand and knew the Indian methods of warfare and protecting themselves. They muddled through seven years of skirmishing and by good fortune won. The medical profession does not seem to have drawn any particular renown or credit from its services in this war.

It was not long after the close of the revolution that the forces of St. Clair, undisciplined and inexperienced, were almost annihilated by the Indians in northwest Ohio. The second expedition, properly organized and drilled under Wayne, was more fortunate. We know little of the action of the doctors in these terrible events. I believe they have left no records.

The war of 1812 was short and, excepting the battle of New Orleans, was not creditable for America. We know little of the services of medical men. Then, as before, no records were kept and perhaps it is well that none were kept.

The Mexican war of 1846 did not call out many men, but the mortality from the preventable diseases, malaria, yellow fever, typhoid fever and dysentery was 16,054, while only 1,777 were killed in action and 954 died later from wounds.

The war of the rebellion tested the strength of both sides to the utmost. The Northern medical forces had much the advantage of the Southern in supplies of medicines and surgical instruments. There was frightful incapacity of the medical staff of both armies for a number of months.

Old soldiers have told me their particular dread was that they might fall into the hands of the doctors or be sent to the hospital. Finally the army medical corps were beaten into shape. Hospitals of proper construction were erected. Statistics were kept and there was some glory for our profession. The medical and surgical history of the war of the rebellion was for those days a monumental work.

The Spanish war found us again full of the enthusiasm to do or die for the dear old U. S. A., but we had virtually no medical or surgical preparation.

I was on duty as Post Surgeon with the Illinois troops when assembled at Springfield. About 10,000 came together and were placed in the State Fair buildings and grounds, beginning with April 28th. For three weeks the weather was cold and rainy. The men slept on cold cement floors. The buildings were large and draughty, the toilet facilities were inadequate. There were no bathing facilities. The cavalry regiment camped in the open race track enclosure. The tents were often surrounded by water, but this regiment had a regular army officer for its commander and came out of the camp in good physical condition. The seriously sick and injured were taken to St. John's Hospital, which was filled to its capacity at that time. I have the records of all that were then treated, 78 in number. Of these there were six cases of meningitis with three deaths, 32 cases of pneumonia with four deaths

\*Read the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 18, 1916.

and three deaths from all other causes, appendicitis, tuberculosis and accident (fracture of skull). There were only two cases of typhoid fever with no deaths. After a four or five weeks' stay in Camp Tanner, the troops were mustered into the regular service and left for the national camps. It would seem that some preparation for good water and for medical and surgical supplies for the small army, a little over 100,000, might have been provided by the war department in five or six weeks' time, but I am quite sure that such provision was not made. I make no charges, but am simply trying to state facts.

The newspapers gave such an account of the general confusion at Washington that I felt certain there would not be provision made for medical and surgical supplies for the Illinois troops. I, therefore, laid the matter before Adjutant General Reese and Governor Tanner, I suggested that we furnish each regiment with a 30-day supply of medicines and surgical dressings and a minor operating case. They authorized me to do this. And each regiment left Springfield with two large packing cases of supplies. Nearly all the regiment surgeons later thanked me for this service. I remember particularly that Major Sullivan of the Seventh Regiment wrote me that when the 7th reached Camp Alger, within sight of Washington, D. C., they found that none of the other regiments there were supplied with medicines. The post commander made a requisition on the 7th to turn over its supplies and the medical officers of the 7th only preserved their supplies by burying them. A number of the Illinois troops, notably the 1st Cavalry, went to Chattanooga where a number, nearly 25 per cent, were taken sick with typhoid and several died. One of the troopers, now a doctor, told me recently that there were nearly as many cases of typhoid fever as gonorrhea at Chattanooga, and that indicated that both were numerous. The same held true of the camp at Jacksonville, Florida.

The scandal of the unpreparedness of all departments of the fighting forces of the U. S. on land is mentioned with shamed faces to this day. The navy was better prepared and made a proud record. Fortunately our contest was with a weak and decadent nation. If it had been against a strong and vigilant nation our record of triumph might have been different. Before leaving the subject of Camp Tanner I might say that soon

after the rendezvous began Surgeon General Senn took charge of the medical department. He secured a subject and each night gave a lecture describing the various surgical operations, such as amputations, resections, and ligations, performing them on the cadaver. However valuable these eloquent and instructive lectures were, I am free to say that they were not what was needed for the fifty surgeons just beginning a service of war in the field. I am quite sure that had lectures been given at Camp Tanner on the methods of water sterilization and personal hygiene of troops much saving of life might have resulted. The fact is that probably not one hundred surgical operations were performed on the 12,000 Illinois troops during the whole war, while, on the other hand, there were probably not less than 2,000 cases of preventable illness and from these a number of deaths.

To emphasize this preliminary statement I here insert the language of the advertisement of the Harvard Medical School, just issued, offering to give this summer a course in military medicine: "One result of the European war has been the realization by intelligent citizens that this country is very inadequately prepared to meet a foreign invasion, and a conviction on the part of many that a foreign war is at least a possibility, which we should be prepared to meet. We know, from our own experience in the Civil War and in the Spanish-American war, as well as from information about the present war in Europe, that physicians in civil life are not capable of becoming efficient army officers without additional training. Any adequate plan of military preparedness necessarily involves provision for the proper medical care of our soldiers. The medical profession must be prepared to meet the demand for efficient medical officers, or face the disgraceful fact that its imperfect knowledge of camp sanitation and of the administrative duties of a medical officer is responsible for greater loss of life among our soldiers than are the bullets of any enemy. Such was the story in the Spanish-American war, where the chief losses were in regiments in camp, which never left this country. We must not allow this national humiliation—this disgrace to the medical profession—to be repeated.

"The Harvard Medical School may well feel proud of what it has already done for the cause of humanity in connection with the European war. It has organized and sent abroad three



complete hospital units, whose combined terms of service amount to twelve months and Prof. Strong and other instructors took a prominent part in the successful campaign against typhus fever in Serbia. We are not satisfied, however, to rest on these laurels, but are determined to do all in our power to aid the cause of preparedness in this country.

"Few appreciate the magnitude of this problem of supplying proper medical care for a large army. It is not improbable that in case of war we should need to put in the field an army of a million men; the experience of the present war forbids us to think seriously of smaller numbers. For such an army there should be ready from twelve to fifteen thousand well trained medical officers. This would mean approximately one in ten of the registered physicians of the U. S.

"We have at present in the regular army, including contract surgeons, only 550 medical officers. If we add the Medical Reserve Corps, who are now prepared for actual field service, the number of properly prepared physicians now available is not over twelve or fifteen hundred—or approximately one-tenth of the number that would be needed for any serious foreign war. It is a mistake to think that efficient medical officers, any more than efficient soldiers, can be had without training, for the efficiency of the army depends on preserving its health. When nine-tenths of the medical officers, in case of war, must come from civilian physicians who are at present untrained for such work, is it not the duty of every patriotic physician to prepare himself for such possible service, if he can do so?"

"Is it not the duty of our medical schools to afford opportunities for such training, as far as they can?"

We must not forget to state the great medical triumph of our Army Medical Corps, which came as a result of the occupation of Cuba, viz., the discovery of the source of yellow fever made by Surgeon Walter Reed in 1900 and the consequent possible eradication of this disease from the tropics. It is believed that this discovery alone has been worth in life and treasure all the expenditures and suffering endured in the war of 1898. We must also render homage to our medical corps, which holds the front rank in making possible the Panama Canal. Never in the history of the world has the medical military officer stood as high as he stands today.

One not infrequently hears it said that, in case of war, civil surgeons could very quickly assume the duties of army surgeons, and, aided perhaps by railroads and executive officers and the comparatively few medical officers of the regular army, could meet the problems of caring for the wounded successfully. So far as the actual surgical treatment of wounds is concerned this is true. But, as the late Dr. Rodman, president of the American Medical Association, recently said in his testimony before the committee of Congress: "I went into the army as a contract surgeon in 1880 and served for seventeen months. The strictly professional part of my work was the easiest part of what I had to do." Without doubt, hospital units for base hospitals, composed of carefully selected civil surgeons, would be of great value. A glance at the list of duties of the army medical corps, however, will show the need for special training. As given in the surgeon-general's report to the chairman of the Committee on Military Affairs, House of Representatives, these are:

(a) Professional care of the sick and wounded in garrison, on the march, in camp, on the battlefield, and after removal therefrom.

(b) Investigating the sanitary conditions of the army and making recommendations in reference thereto, including the location of permanent camps and posts, the adoption of systems of water supply and purification, and the disposal of wastes.

(c) Making physical examinations of officers and enlisted men.

(d) The management and control of military hospitals.

(e) The recruitment, instruction and control of the hospital corps and the army nurse corps.

(f) Furnishing all medical and hospital supplies.

(g) The direction and execution of all measures of public health among the inhabitants of occupied territory.

(h) The methodical disposition of the sick and wounded, so as to insure the retention of those effective and to relieve the fighting force of the non-effective.

(i) The transportation of the sick and wounded.

(j) The establishment of aid stations, dressing stations, hospitals, and other formations for the care of the sick and wounded.

(k) The preparation and preservation of individual records of sickness and injury in order that claims may be adjudicated with justice to the government and to the individual.

(l) The instruction of the personal hygiene.

(m) In addition to these duties, specifically prescribed, medical officers are required to act as members of retiring boards, examining boards, and court-martials, and as instructors for the organized militia.

In view of these facts I suggest the following statements. The Illinois State Medical Society at its annual session of 1916, believe:

1. That the members of this organization are anxious and willing to prepare themselves for proper professional service during any crisis which may arise and which may necessitate our fellow citizens taking up arms.

2. That the duties of the medical profession, in the event of war, have become so important and onerous that not less than seven surgeons should be provided for every 1,000 troops.

3. That schools and camps for the instruction of medical men in the duties peculiar to army service should be provided in the near future, and that all registered medical men between the ages of 23 and 45 who can prove themselves physically and mentally fit for service should be eligible to receive this instruction. I might mention here that at least one surgeon who presented himself for enlistment at Camp Tanner was found afflicted with gonorrhea and one or more were chronic alcoholics.

4. The death rate of the medical corps in modern wars has become so great that to prevent a deficiency of trained men no medical man should be allowed to serve in the ranks. The losses of medical officers in the German army up to November, 1915, was 1,491; of the Austrian army, 1,722.

5. The preparedness and skill of the German medical corps has been of remarkable value to the army of that nation. Undoubtedly the other leading nations have gradually been able to become nearly as efficient. But the lesson of German preparedness of the medical corps should not be forgotten in preparing ourselves. With all the preparations made the German medical army was found lacking in the early days of the war. Prof. Czerny has stated that numerous trains loaded with wounded came into Heidelberg provided neither with surgeons nor nurses.

6. Should it be necessary to carry out the estimated full war strength of the nation, namely, 20,000,000 soldiers, a minimum of 140,000 surgeons would be required. There would then only be about 25,000 remaining to render medical and surgical aid to approximately 80,000,000 people. The possibility of these conditions should be considered and suitable provision be made to meet them.

7. The automobile has been shown so valuable in the European war that this form of conveyance in ample number should be provided for our forces with the least possible delay. (Recognize that there are places in America where autos can not be used.)

8. The x-ray and giant magnet have become so essential in the treatment of wounds made by modern weapons that the army should be amply provided with these instruments of precision.

9. The modern chemical and biological laboratories have been shown to be essential to the care and maintenance of any army by

(a) providing serum for prevention or inoculation against or for the cure of typhus, typhoid, smallpox, cholera, dysentery, diphtheria, erysipelas, gonorrhea and syphilis;

(b) for securing safe water supplies;

(c) for the destruction of infecting insects, such as mosquitoes, lice, flies, rats, etc.

10. Our experience in civil practice as well as the remarkable revelation of the great war abroad have shown that alcohol in every form should be rigidly excluded from the camps of the recruit and the seasoned veteran.

11. Notwithstanding the gigantic efforts made to prevent venereal diseases in the German army we learn that there has been very great difficulty in combating diseases of this character during the present war. We should, therefore, suggest that the methods of preventing such diseases in the U. S. army that were in use up to a recent period be again provided.

12. In the trench warfare the use of barbed wire, suffocating gases and hand grenades as well as other means of destruction has introduced new factors into the science of war. The medical supplies should be on hand and the medical profession taught how to treat these new methods of injuring the soldiers.

13. Provision should be made to continue life and accident insurance of the profession while



on war duty. This will probably necessitate increase in the rates of insurance at such a time.

14. Experience has proven that volunteer surgeons, i. e., those not connected with the regular service or the Red Cross service, and having no responsible standing, are not calculated to render efficient service in time of war. The same principle applies to volunteer, untrained nurses. These being usually society women desiring to shine in the lime light for a brief period. Regular, continuous, systematic, intelligent service on the part of both surgeons, nurses and hospital employees is what counts in the time of stress.

15. One of the greatest services of the medical men is the truthful statement of facts. For example, each side in the present war accused the other of using dum-dum bullets. This was probably not true of either side. Each side has accused the other of burning out the eyes of children, cutting off the breasts of women, cutting off the hands of old people. This has been shown probably not true of either side. The facts of war are always distressing enough. They should not be magnified by enormous untruths.

16. Finally, and above all, the medical profession should exercise its highest powers of mental and moral restraint and insist that humanitarian methods and thoughts should be uppermost even in the face of carnage. Ordinary humanitarianism has failed, religion has failed, all other known means of civilization have failed to prevent wars. Let us hope that the brotherhood of medical men all over the world may rise to this great opportunity and find a basis on which all may unite to bring peace and good will between all men now and forevermore.

## THE IMPORTANCE OF THE POSTNASAL SPACE AS A FOCUS OF INFECTION IN INFANTS AND YOUNG CHILDREN.

REPORT OF CASES.\*

GEORGE EDWIN BAXTER, M. D.

CHICAGO.

### INTRODUCTION.

The apparent increased frequency of postnasal infections in early life, during the past few years, together with certain unusual and serious

complications, that have come under my observation, is the explanation for presenting this subject for your consideration. From a careful study of a group of cases seen last year and this year in private practice I have been led to attach great importance to the postnasal space as the atrium of many general infections in infancy and early childhood, excluding in this consideration any known infectious diseases which may localize in this space, e. g., diphtheria, scarlet fever, etc., or the relation to infections of the lower respiratory tract. There is little doubt but that many febrile infections in infancy have been attributed to gastro-intestinal diseases that have had their origin in the tissues of the nasopharyngeal space.

We are familiar with the coincidence observed in an infant being treated for gastro-intestinal disturbance who suddenly develops a running ear, but this ear complication is not considered as an important feature in the complaint of the infant. In the preparation of this subject matter the faucial tonsils have been eliminated as the primary source of the infection. This elimination has been made by the absence of any visible abnormal change in the tonsillar or the peritonsillar tissue and the absence of any swelling and tenderness in the deep cervical glands, located anterior to the sterno-cleido-mastoid muscle, which drain the faucial tonsils. In speaking of adenitis we refer to the group of cervical glands that are located superficially and posteriorly to the sterno-cleido-mastoid muscle. This group drains the glandular tissue in the vault of the pharynx.

### ANATOMICAL CONSIDERATIONS.

The anatomical structures in the postnasal space are different in childhood than in the adult. The tissue in the vault of the pharynx, which is known as the pharyngeal or Luschka's tonsil, is a normal structure in childhood. In a perfectly normal state this tissue is scarcely visible, but by means of repeated so-called colds, the temporary enlargement becomes permanent and we have what is familiarly known as adenoid tissue. Coincident with this hypertrophy of the Luschka's tonsil is found an enlargement of the follicles of the mucous membrane of the posterior and lateral pharyngeal wall. If temporary swelling reoccurs, the glandular and mucous tissues become adenomatous and obstruct the posterior walls and the openings of the eustachian tubes. The lymphatics

\*Read at the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 18, 1916.

from this region connect directly with the superficial cervical and so-called parotid group of glands located below and posterior to the parotid gland. The enlargement of these glands is practically proof positive that the infection gained entrance through the postnasal space. The proximity of the opening of the eustachian tubes to the susceptible tissue in the postnasal space is the explanation of the frequency with which otitis media occurs in acute postnasal infections. This brief mention may serve to review to your minds the anatomical and pathological characteristics of the postnasal space. It is easy to see how vulnerable the postnasal space is to acute infections, when we recall the great prevalence of pathogenic bacteria in crowded rooms, cars and schoolhouses where infants and young children are housed. The variability of the temperature outside and inside these spaces of habitation causes alternate swellings and constriction of the tissues of the nasal and postnasal passages, which are particularly small and non-resistant in early life, giving good opportunity for bacterial growth. As observations have shown, there is an especial susceptibility to infections on the part of the tonsillar tissue in the postnasal space in infant life which is not found in the faucial tonsils. The physiological importance of the faucial and pharyngeal tonsil is yet to be determined. The relative infrequency of acute infections of the faucial tonsil and great frequency of infections of the naso-pharyngeal tonsil during the first two years of life must have some significance as to the physiological nature of the tonsils. This paper, however, does not deal with the physiology or pathology of the faucial tonsil, therefore I cannot elaborate on this most important and interesting pathology of childhood.

#### FREQUENCY.

Colds in the head are exceedingly common in the childhood period. The recurrences of these colds are so common that the physician only sees the patient when some constitutional disturbance arises or some discomfiting complication. It is not fair to say that all so-called colds in the head are genuine infections in the postnasal space. It is also true that many infections of the postnasal space occur without general signs of infection or evidences of important complication, therefore, we eliminate for consideration all nasal or postnasal infections which do not produce constitutional disturbances.

In a study of 110 cases occurring in private practice in the past two years belonging to the latter group, I am convinced that we have had to do with many kinds of bacterial infections, and the group of cases observed this past winter have been different in many of the manifestations from those observed one year ago. We are familiar with the ravages of the epidemic of grip which has been so prevalent during the past winter, and as yet our bacteriologists have not agreed upon any one type of bacteria as being the cause of the epidemic. The bacteriological studies have shown a great variety of bacteria to have been present in those affected with the so-called grip infections. This observation will explain the different manifestations of the symptoms observed during this epidemic, indicating various points of localization of the invading organism. Out of a great many more sick people seen during the past winter than in the previous winter during the corresponding months I was struck with the relatively infrequent number of cases which gave evidence of a postnasal infection. This is in marked contrast to the period of six months beginning Jan. 1, 1915, from which period I was able to select and study from my records sixty cases which had postnasal infections, some of them with serious complications, the greater number occurring during the month of March, 1915. These cases were reported last year and considered as an epidemic of postnasal infections because of the peculiar prevalence and the type of complications. This year extending over a period of six months beginning Dec. 1 only fifty cases of the same type were observed out of a series of many more sick children and only one of which showed any serious complication. These groups will be compared in detail later on.

#### DIAGNOSIS.

The diagnosis is based upon the presence of constitutional symptoms of an infectious condition, e. g., chill, fever, general malaise, and either discomfort or stupor in the infant, supplemented by negative physical findings in all parts of the body except the postnasal space. There may be evidence of mild coryza, but more frequently there is no discharge from the anterior nares, but there is evidence of an obstruction to nasal breathing. I want especially to emphasize that many of these cases occur without any evidence of cold in the



head. Have observed a number of cases with or without inflammation of ears or glands and no history of coryza. A most important finding is the occurrence of a muco-purulent discharge coming down into the pharynx from the postnasal space. About 80 per cent. of the cases have an otitis media and practically all show some degree of enlargement of the group of cervical glands which drain the postnasal space. The inability of these patients to breathe freely through the nose and, in young infants, a marked difficulty in swallowing, are observations that are commonly made by the mother or attendant. In the cases observed this past year a nose bleed and bloody purulent discharge from the anterior and posterior nares was a common observation. This particular finding was not so commonly found in the group of cases observed last year and is another evidence of the difference in the type of bacterial offender in the two groups of cases. The duration of the infection varied from a few days to several weeks. If marked infection of the glands or suppuration of the middle ear occurred the disease was much more protracted; when more remote complications, such as acute nephritis, occurred the illness lasted over a much longer period.

#### ANALYSIS OF OBSERVED CASES.

Fifty (50) cases of infection beginning in the postnasal space were selected from my records which occurred during the past six months. Of these fifty, thirty (30) occurred under three years. Of this number nineteen (19) had acute otitis media, ten (10) had adenitis without otitis media; three (3) of the cases of otitis media had a paracentesis done and two (2) had spontaneous rupture; one child had a paracentesis of one ear and otitis in the other with no drainage; good recovery. The other twelve (12) recovered without drainage; two of the cases had had a previous operation for the removal of tonsils and adenoids. Of the cases which had been operated on for tonsils and adenoids, one showed a recurrent otitis media and the other a recurrent adenitis and in both cases the operation was successfully done. One case had pneumonia as complication. Twenty (20) cases were observed in children from the age of four to seven years; of these ten (10) had otitis media, seven (7) had adenitis exclusive of the otitis media; in five (5) of the cases of otitis media a paracentesis

was done. Of these one (1) case had a previous operation for the removal of tonsils and adenoids. It is interesting to observe the frequency in which otitis media occurs during the first two years of life and the infrequency of the necessary drainage through the external auditory canal. In nineteen (19) cases only five (5) required drainage, two (2) spontaneous and three (3) paracentesis, while in older children 50 per cent. required paracentesis and none with drainage which did not have paracentesis. This observation is made to show that early paracentesis is not necessarily the method of treatment which should be followed in otitis media occurring in infant life.

In this group of cases only one showed the complication of hemorrhagic nephritis. This is in contradistinction to same complications resulting from the infection which occurred in the group of sixty cases observed one year ago; 10 per cent. of that group showed an acute hemorrhagic nephritis. This is too great a percentage to be a mere coincidence. There was an especial susceptibility on the part of the kidneys to the toxins of the invading organisms. By far the majority of the postnasal infections observed last year occurred during the month of March and five of the six cases of acute hemorrhagic nephritis developed within a period of the first ten days of that month. All of the cases presented about the same severity of symptoms and ran about the same course.

#### ILLUSTRATIVE CASES OF HEMORRHAGIC NEPHRITIS.

CASE 1. A girl, aged five years, was taken suddenly ill, March 7, with negative physical findings, except evidences of a mild coryza, marked obstruction to nasal breathing and muco-purulent discharge from the postnasal space. Two days later the child showed the usual evidences of an acute hemorrhagic nephritis; temperature, 103; edema of the face and legs, stupid; the urine scanty, had the appearance of blood, with large quantities of albumin, blood and granular casts. This child was acutely sick for about three weeks, during which time she had a double otitis media, which developed on the third day; the nephritis was observed before the otitis media; cervical adenitis developed in ten days. The nephritis continued to be the condition of greatest importance. The disease lasted in all about six weeks or two months, with an ultimate complete recovery. This year, about ten months later, the child again developed a postnasal infection, with a unilateral otitis media, but no nephritis. The important feature of this case was the early development of the hemorrhagic nephritis.

CASE 2. An older sister of this child was taken the same day, with the same manifestations, plus a tonsillitis, but her hemorrhagic nephritis did not develop until the tenth day. This child developed a mild postnasal infection again this year, lasting only a few days and with no complication. Her recovery from the original infection was likewise complete.

CASE 3. A boy, aged seven years, was taken sick two days later than the girls, with evidence of postnasal infection and accompanying otitis media. Cervical adenitis was not present. Hemorrhagic nephritis developed the seventh day and ran about the same course as the other cases. At the time the child was ready to get up it was noted that he could walk with great difficulty. At first this was presumed to be due to the long confinement in bed, but there was no improvement after a week or ten days, when it was noted that he had a very pronounced spastic paraplegia of the legs and to a slight degree of the arms. The child's temperature had been 99 to 100. This condition lasted several weeks longer and finally entirely cleared up. About five months from the beginning of the infection he had his tonsils and adenoids removed. His recovery was complete; there has been no exacerbation this year.

Three other cases were observed about the same time, one of which had tonsil involvement; all ran about the same course and made complete recoveries. With one exception all these cases have been observed over a period of one year and there has been no recurrence of the nephritis, although four out of the six cases have had recurrent infections of postnasal space. This year I have observed only one case which presented the same picture as this group of six. This case is still under observation, has had an acute postnasal infection followed by bilateral suppurative adenitis and accompanied by hemorrhagic nephritis. The child is making an uneventful recovery; at present shows no evidence of nephritis and general condition is good. The nephritis was by no means so severe in character.

Especial mention is made of these cases of nephritis because they are unusual in my experience and unusual in reported cases that I have been able to learn from the literature. The occurrence of an acute nephritis complicating tonsillitis is by no means uncommon, but a severe hemorrhagic nephritis resulting from a postnasal infection is rare. The occurrence of six cases of hemorrhagic nephritis as a complication of a postnasal infection, all developing within a period of a week or ten days, is strong evidence that at that particular time we had to deal with an infecting organism whose toxins were selective in their action on the kidneys, while in the group

of cases observed this past winter, when only one mild case was seen, the organism must have been of entirely different character. Unfortunately the bacteriological study of these two groups of postnasal infections was not made. No case of acute or chronic mastoid disease was seen in either group of postnasal infections, and only one case showed a condition which might have been diagnosed as encephalitis, the case of the boy with acute hemorrhagic nephritis and subsequent spastic paraplegia; no other cases of possible meningeal or cerebral complications occurred.

Postnasal infections in infancy and early childhood deserve our especial attention. There is little doubt that we have been inclined to pay too little attention to the infant with infections in the nasal or postnasal space. We are keen to observe the faucial tonsils to determine any acute infection by the diphtheria or other organisms, and in infants the finding of an acute infection in the faucial tonsil is rare. Having eliminated this source, our duty to the patient requires careful examination to determine evidences of infection in the postnasal space. Infections with their beginning in this locality may be as severe in their attack on the child as though the infection began in the faucial tonsils. The above reported cases, the great frequency of the occurrence of otitis media with its possible sequelae such as mastoiditis, meningitis, etc., and cervical adenitis show how the infant may be invalidated over a period of many weeks or even months with possible secondary tubercular infections. The importance of this class of infections is seen also as one of the important causes of infant mortality. Infections of the upper respiratory tract of infants should claim our attention equally as much as the infections in the lower respiratory tract. It must be conceded that the upper respiratory infections are frequently, if not, always a forerunner of the diffused bronchitis or broncho-pneumonia in infancy. In a recent publication one authority has stated that since 1875 the deaths of infants from respiratory diseases have increased 600 per cent. In this increase infections originating in the upper respiratory tract have no small part. This paper has not attempted to discuss the relations between the postnasal space and the lower respiratory infections, but has attempted to show the relationship between systemic manifestations and proximal and remote complications, and to em-



phasize the frequency of infections originating in this space, examination of which will often explain the source of an otherwise puzzling febrile reaction in the infant or young child. The marked tendency for infections of the postnasal space to occur in infants and young children is largely due to certain constitutional conditions that may be present in the infant, such as poor nutritional conditions which lower the natural resistance, particularly in the infant reared on supplemental feeding, also to the narrowness of the nasal passages where a slight swelling interferes with respiration and permits of accumulation of secretions which stagnate and allow proliferation of bacteria which abound in such great numbers in all our congested districts. Middle ear disease is a most common complication of infections of the postnasal space. General practitioners as well as the pediatrician should familiarize themselves with the method of examination of the ear, so that they may be able to determine the presence of otitis media. These cases come directly under their observation and they should be familiar with the physical condition in order to make the correct diagnosis and institute the proper treatment. It is by no means always practical or indeed possible to secure the services of the nose and throat specialists. In fact, these are cases of generalized infections with local manifestations. It is a common observation that when a paracentesis is done in an infant or young child and we are advised by the specialist that the temperature will immediately drop, in a vast majority of cases the temperature persists for a number of days, regardless of the freedom of drainage. It is exceedingly important not to be too hasty in doing a paracentesis in all cases of otitis media, especially in infants under two years of age. Undoubtedly many cases of infection of the middle ear get well without even coming under a physician's care; for example, cases of ear-ache in the infant not old enough to express itself except by restlessness and crying which have no drainage through the external canal and if seen by physicians are often diagnosed as teething or stomach disturbance.

#### CONCLUSION.

*First:* The postnasal space is an important atrium for general infections in infants and young children.

*Second:* Complications equally as severe as

those resulting from faucial tonsil infections may occur.

*Third:* Closer study and observations should be made of this class of infections that we may better prevent the infection and institute such care and treatment as will minimize the injury to the infant organism.

*Fourth:* The necessity of urinalysis in infants and young children suffering from infections of upper respiratory tract.

4603 Broadway.

#### DISCUSSION.

Dr. Charles B. Younger, Chicago: Dr. Baxter's paper is undoubtedly a valuable contribution to what is a great and growing subject, because, first, it draws attention to or emphasizes the importance of the pharyngeal tonsil as being a source of secondary infection. I have in mind only one text-book of quite a number that calls attention to the pharyngeal tonsil as a source of secondary infection. As to the physiology of the tonsil, as Dr. Baxter has said, this offers a very interesting field for the investigator.

The histology of the faucial tonsils and the pharyngeal tonsil is essentially the same. That is not true of the lingual tonsil or the other lymphatic arrangement. Granting the histology of the faucial tonsils and the pharyngeal tonsil is the same, then we can believe that the same processes which take place in the faucial tonsils can just as well take place in the pharyngeal tonsil.

We have our own observations, all of us, with regard to the faucial tonsil. We all see it frequently and at the first rise of temperature in the child we take a look into the throat at the faucial tonsils. The relation of the faucial tonsil to distant ailments, such as kidney disease, heart disease, diseases of the pancreas, joint disease, meningitis, cervical adenitis and many other infectious diseases have been traced by good and able men to the tonsils.

But we seldom see and I cannot recall an instance where they have been traced back to the pharyngeal tonsil. That is why Dr. Baxter's paper is important to me, because he traces them back to that tonsillar structure. In the normal case the faucial tonsil is supposed to stand free and independent of the surrounding structures. As a matter of fact, in young children, inflammations, set up from gastro-intestinal disturbance or what not, cause little adhesions to form, trifling to begin with, but subsequent inflammations increase those adhesions in number and in firmness and gradually the anterior pillar is drawn over the faucial tonsil, closing a certain number of the canals of the tonsil.

When we plug up the end of the follicles, the secretion perhaps containing pus cocci, we have an abscess and maybe many small abscesses form under that pillar. In case of the pharyngeal tonsil we do not have those adhesions in and overlying adhesions to deal with.

Dr. Frank E. Simpson, Chicago: Dr. Baxter makes one point that the ordinary practitioner can certainly appreciate and understand. In March, 1915, I had the care of an excellent young woman whose case seemed to be up to a certain point just about such as described. I gave her such treatment as I could give, but the next day she developed an acute pneumonia; she was six months pregnant and she lost her baby and she got mastitis all within a day. Fortunately, the lady got well in spite of her trouble.

Dr. Baxter, closing the discussion: I do not know that I have anything to add. It just occurs to me to further emphasize the point which was brought out by Dr. Younger, and that is the possibilities in the study of the physiology of the tonsils and especially of the postnasal tonsil. It is a common thing for advice to be given that the tonsils and adenoids should be removed regardless of the age or necessity for the operation. It likewise is common for the nose and throat specialist to report all the cases that they have operated on as having been successful. The cases should be studied for a period of years after the operation in order to determine how much better the child is than before the operation.

Such a report has been made recently by a man in Pennsylvania, who operated on 500 children in a certain school and he observed these cases over a period of three years and it is remarkable that his results do not show by any means that all the cases were improved. This to me was an interesting fact. The highest percentage of improvement that he had—and he grouped his cases under certain groups—was 75 per cent, whereas the bulk of the improvements ran usually about 50 per cent. This is not said for the purpose of minimizing the importance of operative procedure for adenoids and tonsils, but rather that there should be some very definite indication for the removal of tonsils and adenoids.

Just one word more which I tried to bring out in my paper, the infrequency of the acute infection of the faucial tonsils in the first two years of life; and what we would absolutely determine as bad treatment, to advise that tonsils and perhaps in a great many cases, adenoids, should be operated on during the first two or three years of the infant's life.

One further point, and that is simply as a matter of emphasis, not to forget that acute infection in the infant may have its beginning in the postnasal space and your observation of the infant may entirely overlook that source of the original infection.

## THE AFTER-EFFECTS IN THE NOSE AND THROAT OF THE USUAL WINTER COLD.

OTIS H. MACLAY, M. D.,  
CHICAGO, ILL.

Among the complications following infectious conditions of the throat, peritonsillar abscess per-

haps stands first in order of frequency. The diagnosis considers the history of a previous tonsillitis which has generally shown a marked improvement for about two days, but at the end of that time a rather rapid increase has occurred in the throat discomfort, causing a much more painful condition than that which existed in the original attack of tonsillitis. This history, with the temperature running low—about 100 degrees—the muffled speech, the difficulty in opening the mouth and freeing the throat of the heavy, sticky secretions, with the bulging area above the anterior pillars, gives a picture that could hardly be mistaken. Abscess of the tonsil, although much rarer, should be considered from a differential standpoint.

If seen before pus is present ice may be of benefit, applied externally and sucked, as an abortive measure, but used not longer than twenty-four hours, if improvement is not apparent. At this time it may also be of value to swab the region above the anterior pillar, and the supratonsillar area with a thirty per cent. solution of silver nitrate. However, since these cases are generally seen when pus is forming, heat should be applied externally and the throat steamed, which not only aids locally, but prevents the downward extension of the inflammation. Incision generally through the region above the anterior pillar should be made rather early, even before decided fluctuation can be observed, since the free bleeding, even when pus is not evacuated, gives relief and shortens the duration of the attack. The commonly accepted idea that they can be left alone until they break is not an advisable practice, since an enormous amount of pus may be held under pressure for a number of days, causing intense pain and a great amount of absorption. I recall two cases where the pus when freed shot out onto the patient's lap. These could have been opened much earlier, and when we realized that grave organic infections occasionally result from such conditions they certainly should have been opened earlier.

The laryngeal complication most to be feared following throat involvements is that of an acute edema, and when such a condition appears even as a remote possibility, energetic measures should be used. It is much more important to be aware of a condition such as an acute laryngitis, which may give an acute edema, than to diagnose the

\*Read before the South Side Branch of the Chicago Medical Society.



condition of an existing edema, since to be forewarned is the only way that safety can be obtained for the patient. Those cases which, although not verging on an edema, show a red larynx, and may or may not have much hoarseness, should be carefully examined before the symptoms become grave and the proper means taken to avoid an unfavorable outcome. However, if hoarseness becomes pronounced and the respiration embarrassed urgency is demanded. Care of the general condition is important. Bed is the best place for these patients, preferably in a hospital. The gastrointestinal tract should receive proper attention. Hot foot-baths may be given, and a cold pack placed about the neck. Steam inhalations should be used, and appropriate internal medication prescribed. Locally, a spray of adrenalin chlorid, one dram to the ounce of normal salt solution, should be directed into the larynx, followed within the hour by a soothing oil spray, containing a small amount of menthol, which is to be inhaled. The tissues of the larynx, when swollen sufficiently to cause marked difficulty in respiration, may be punctured and relief obtained. Both a tracheotomy tube and an intubation set should be ready for instant use.

Predisposing factors to this laryngeal involvement should be sought between attacks and remedied. These factors are those tending to lower the resistance of the laryngeal mucosa, and include such conditions as sinus infections, abnormal alignments of nasal structures, causing defective ventilation and drainage, diseased tonsils, and so forth. This is an important point, since the cases with repeated attacks are more serious than those suffering for the first time. In an acute exacerbation of a chronic condition the underlying factors must be eliminated if the best results are to be obtained.

Leaving the rarer complications of the larynx, we will endeavor to briefly mention those occurring in the sinuses. It is here that the winter colds not only gain a rather ready access, but also show a firm determination to remain.

The diagnosis varies according to the sinus involved, but certain points are found in common. Pain is present, varying from an aching discomfort, often found over the maxillary, to the intense blinding headache of the frontal. Pus may not be present early even when the pain is decided, but may appear later. Temperature, if

present, is generally low. The history commonly heard is that of a cold that they can't get rid of, although they are feeling better generally than when they first had the cold, with the exception of more localized pain, which is over one or more of the sinuses. Considering the maxillary sinus from the standpoint of its acute involvements, we have the pain mentioned with the associated dull aching of the related teeth and gums, generally the presence of pus in the nose and the absence of a bright light from transillumination, as points in the diagnosis. The pain, although generally limited to the area over the sinus, is not necessarily so found. It may be to the side over the malar bone, or even in the frontal region, and is of a duller, heavier type than that of the frontal, being best described as a painful aching. Frontal pain or headache over the sinuses I believe to be a very positive symptom in establishing the diagnosis of frontal sinusitis, but in reading it aright we must differentiate between the pain and tenderness. During a part of the day, it may be morning or afternoon, these patients experience the intense pain which is limited to the sinus area, with marked tenderness or aching all over the forehead on the side involved. This generally extends to the hairline, but not beyond. When the day's period of greater pain has passed, they then have present a dull aching, and also a marked tenderness on pressure over the sinus for the remainder of the twenty-four hours. This condition may persist for two or three weeks, but the period of severest pain may, by starting later, gradually be limited to the afternoon, leaving the duller sensation for the morning. This condition is decidedly intensified by moving, jarring or reading, but during the period of aching there is no tendency to recurrence of the acute pain by exercise or reading. Pus from the maxillary is seen in the middle meatus, around the middle turbinate, and also between the inferior turbinate and septum.

Transillumination of the sinuses is not a very definite aid in diagnosis. However, when the sinus shows dark, it is an added point in the case, but pus may be present and still the sinus appear fairly bright. Irregularity of the bony wall and the difference in the consistency of the purulent secretions are factors that render this test rather inaccurate, and hence should only be used as a

step in the diagnosis. With a clear sinus, the light points to be observed are the red pupillary reflex and the crescent of light under the lower eyelid, these being absent when test is positive.

Suction may be used as an aid in bringing pus into view after the nose has been cleansed by some mild alkaline solution, and then sprayed with a very weak cocaine solution, but although it may be an aid in diagnosis, and by stimulating leucocytosis an aid in healing, I ordinarily do not use it in the acute conditions, since the pain in my hands has been increased out of proportion to the benefit derived. In subacute and chronic conditions I find it of value.

The location of pus in the nose as a sign referable to a certain sinus is difficult, but as a general statement, when found anteriorly, it comes from one or all of the sinuses draining into the middle meatus, namely, the maxillary, frontal, or anterior ethmoids, while that seen in the posterior part of the nose or in the nasopharynx drains from the posterior ethmoids or sphenoids. However, the history with the subjective symptoms mentioned plus the presence of pus gives a fairly accurate diagnosis.

The ethmoids, when involved, add to the points given, not a marked increase in actual pain, but rather a discomfort, which is spoken of by the patients as that of a fullness or stuffiness in the head, an aching between and behind the eyes, and over the top of the head. If an acute ethmoid could be found existing alone, it would appear as a severe coryza, with its associated discomfort. According to Skillern, "the diagnosis of the acute forms of ethmoiditis must be largely conjectural, for the reason that any satisfactory rhinoscopic examination, owing to the enormous swelling, is out of the question."

The treatment of acute sinus troubles demands our attention from two standpoints: First, the relief of the condition itself, and, secondly, and of more importance, the elimination of the tendency to recur. As to the relief of the acute symptoms, gentleness in treatment should be the first consideration, and this means that ventilation and drainage should be established, and are best established by a minimum of manipulation. Probing a frontal sinus, irrigating a maxillary, removing part of a middle turbinate, or any operative measures should be condemned, since

the reaction is too severe, and the chances for an extension of the infection not sufficiently removed to warrant such a measure. Even intracranial complications could arise as a result, owing to the intimate relation between the lymphatics of the nose and those of the subdural space. But, aside from this, the reaction gives a sore, swollen nose, further impeding drainage, and a very decided increase in the headaches present. As a routine, I treat as follows: Nose sprayed with mild alkaline solution, followed with a 0.5 per cent. cocaine spray, until contraction of moderate amount is seen, being sure to reach the upper portion of middle meatus. While the cocaine is acting, use a fifty candle power leucodescent lamp over the sinuses until heat relieves pain. Swab middle meatus, middle turbinate and inferior turbinate with ten per cent. argyrol solution. This continues the contraction obtained by weak cocaine solution. Throat conditions treated according to findings. Patient uses at home urotropin, dry heat over sinus, spray of adrenalin—one dram to the ounce of normal salt solution—three times a day. Appropriate general treatment, with rest in bed, is of great benefit, and if patient understands that we are endeavoring not only to cure the "cold," so-called, but to prevent a chronicity, he will more willingly help himself.

In reference to the second point, the predisposing factor must be found and corrected between attacks. It may be one of many different conditions, or more than one. A deflected septum should be corrected; an enlarged middle turbinate partly removed; a chronic sinus opened and irrigated. Since most of the sinus involvements are acute exacerbations of chronic conditions, and these being the ones that are the most severe and much more liable to give serious complications, it becomes our duty to explain to the patients the facts in the case, so that they may be relieved not only from the repeated attacks, or if not completely relieved may be placed in a position so that relief can be more readily given and safety insured, but from any chance of intracranial complications.

In conclusion, let me state that in treating acute sinus conditions, gentleness should be used in manipulations, but a thorough gentleness is essential.



## MEDICAL INSPECTION OF SCHOOLS.\*

ROBERT D. LUSTER, M. D.,  
GRANITE CITY.

With the great changes which have been coming over American life, former conditions have disappeared and undisturbed indifference to the physical welfare of our school children has become impossible.

The school year has changed from a three months winter term to one of ten months during the year. Going to school has become not only the normal but the required occupation of all children for a considerable number of years. The state has decreed that all children must attend school. The object was to insure that children should have sound minds. One of the unforeseen results was to insure that they should have unsound bodies.

It was found that compulsory education under modern city conditions meant compulsory disease. Medical inspection is the device created to remedy this condition. By this we mean an extension of the activities of the schools in which the educators and the physicians work jointly to insure for each child such conditions of health and vitality as will enable him to take full advantage of the free education offered by the state.

Medical inspection of schools was first provided for some eighty years ago in France, but it is only during the past quarter of a century that it has assumed the proportion of a world wide movement. Boston was the first city in the United States to establish a regular system of medical inspection in 1894. This movement came as a result of a series of epidemics among the school children. Chicago began in 1895, New York in 1897, and Philadelphia in 1898. The movement rapidly spread from the great cities to the smaller ones. In many cases it was started by a local medical society offering to carry on the work for a limited time, without expense to the municipality, in order to demonstrate its desirability. Wherever established, the good results have been evident. Epidemics have been checked or avoided. Improvement has been noted in the cleanliness and neatness of the children. Teachers and parents have come to know that under this system it is safe for children to continue in school in time of threatened or actual epidemic.

But medical inspection does not stop here, nor has it limited its activities to the field outlined.

School men discovered that compulsory education was bringing into the schools hundreds of children who were unable to keep step with their companions, and, because this interfered with the ordinary administration of our school systems, they began to ask why the children were backward, and knowing something of the wonderful advances made in the field of medicine they turned to the physician for aid.

The school physician showed that a great many of their children were backward, simply because of removable physical defects.

The scope of medical inspection was thereby extended to include the physical examination of school children with the aim of discovering whether or not they were suffering from such defects as would handicap their educational progress.

A surprising number of school children have been found who, through defective eyesight, have been seriously handicapped in their school work. Many are found to have defective hearing. Other conditions such as adenoids, enlarged tonsils, swollen glands and carious teeth have a great and formerly unrecognized influence on the welfare, happiness, and mental vigor of the child.

In small communities the employment of physicians for this work has been proven to be practically impossible, as it involves too great an expense and almost invariably produces professional jealousy and friction.

The experiment is being employed in small towns of engaging school nurses to act as medical inspectors and so far the plan has given great satisfaction where it has been tried.

Owing to a threatened epidemic of diphtheria last October, the writer was able to induce the Board of Education and the City Board of Health in the town in which he lives to jointly employ a nurse to act in the dual capacity of visiting nurse and medical inspector of schools. This arrangement proved very satisfactory indeed.

Of course she could not diagnose disease as well as a medical man, but this was really not necessary as her function was not to treat the children medically, or surgically, but to ascertain the existence of disease and defect and then refer such abnormal children to a doctor, after which

\*Read before the Madison County Medical Society at Godfrey, Ill., June 2, 1916, president's annual address.

she could if necessary assist the doctor in carrying out his advice.

Her work was carried on in the following manner: She visited each school building daily and the teachers were instructed to send to her any pupil who appeared not to feel well or who complained of being sick. If a child had been absent from school on account of sickness and had not been under the care of a physician, he was referred to the nurse before being allowed to take his place in the school room.

She would take the child's temperature, examine the throat, see if glands in neck were enlarged and examine the body for an eruption. If the throat was suspicious she would take a culture and exclude the child from school until a report was received from the culture.

When the child was excluded he was given a card to the parent or guardian notifying them of the condition and advising them to consult their family physician. In this manner she discovered ten cases of diphtheria and three cases of scarlet fever attending school and in our opinion was a great factor in controlling contagious diseases.

After the threatened epidemic subsided she made an examination of each child for eye, ear, nose and throat diseases, at the same time watching closely for contagious diseases.

This examination was made as suggested by Dr. Frank Allport of Chicago. Nine questions absolutely plain and simple in their character are arranged for which she obtains answers. They are, for instance, such questions as these: "Does the pupil habitually suffer from inflamed lids of eyes?" "Does the pupil fail to read a majority of the letters in the number XX line of Snellen's test type with each eye?" "Does matter or a foul odor proceed from either ear?" "Is the pupil an habitual mouth breather?"

One thousand nine hundred and forty-three children were examined with the following results:

Defective throats .....	14 per cent.
Defective noses .....	7 per cent.
Defective ears .....	3 per cent.
Defective eyes .....	12 per cent.
Defective teeth .....	35 per cent.
Not vaccinated.....	77 per cent.

Although this examination was not made until April and the first part of May, more than 100

children have had their teeth attended to, 10 have had ears treated, 4 have had adenoids removed, 8 are now going to the oculist; 12 whose parents were not able to pay for having their eyes examined were taken to an oculist by the nurses and through the kindness of our ladies' charitable organizations were supplied with glasses. A number of parents have promised to have the defects of their children attended to during the summer months.

These tests should be made as soon as possible after the opening of the fall term, as this is not only the most convenient time for the work, but it will give the nurse ample time to follow up the tests and watch the effect of medical treatment.

I believe that you are all interested in the physical and moral welfare of our children.

You, as physicians know that bad vision and hearing constitute an important barrier to the reasonable and easy acquirement of an education, and that a vast number of children are thus embarrassed. You will agree that a great benefit to the children and to society at large would be effected if such physical defects could be detected and relieved.

Then may I ask you: Why do you not take up this work, secure the co-operation of your board of health and board of education and carry it through?

The writer has referred to the work of Gulick and Ayres on "Medical Inspection of Schools," Dr. Frank Allport's papers on "The School Nurse," and "The Eyes and Ears of School Children" and respectfully refers you to same.

## THE PROBLEM OF VACCINE THERAPY.

G. H. SHERMAN, M. D.,  
DETROIT, MICH.

Living in a scientific age and as a result of scientific investigations, exact knowledge to guide us in our methods of doing things has been obtained along so many lines of human endeavor that we are never quite satisfied to advance in any direction until a logical reason for our procedure, backed up by actual experience, presents itself; and from the nature of our profession, this applies most particularly to the treatment of disease.

Since therapeutic immunization centers around



the proposition of injecting killed germs during an infection as a means of stimulating antibody production, to have an intelligent conception of this method of treatment it is necessary to ascertain, if possible, the difference in the behavior of tissue cells in the presence of killed as compared to live organisms. When applying bacterial vaccines for therapeutic purposes we are constantly confronted with the question: "Why should killed organism injections, possessing but slight irritating properties, hasten immunization if the live organisms in an infection, with all their irritating and toxic influences, do not arouse sufficient cell protest for an adequate amount of antibody production?"

It does look like an irrational procedure to inject several hundred millions of killed germs into a patient suffering with an acute infection with severe toxic symptoms, like pneumonia, puerperal sepsis or typhoid fever, where we have localized tissue involvement in conjunction with an infection of the blood.

In studying infectious diseases the fact that recovery from a severe infection by a given organism does not insure greater protection or confer a more intense degree of immunization than develops from an infection by a less virulent type of the same species of germ, is well established. Recovery from a mild attack of smallpox, scarlet fever, measles, mumps, whooping cough, typhoid fever, or other infectious diseases, gives just as much protection toward subsequent attacks as recovery from more severe infections by the same organisms, and if the infection is very severe, immunization is retarded with a resulting prolonged illness or a fatal termination. Furthermore, recovery from infectious diseases like erysipelas, pneumonia, bronchitis, or rheumatic fever and other ailments, leaves the person more susceptible to subsequent attacks and this susceptibility seems to be more pronounced after recovery from severe than less severe attacks. This clearly shows that the degree of immunity conferred does not depend on the severity of extensive toxic irritating properties of an infection, but that such properties on the contrary hinder the immunizing mechanism. All our prophylactic immunization is based on the principle that attenuated or devitalized organisms will confer adequate immunity without producing the severe toxic conditions which prevail in an infection.

All this shows that the immunizing or anti-

genic properties of an infection are not inherent with or dependent on the toxic activities of the live organism, but that tissue cells are more actively stimulated for antibody production in the presence of attenuated or killed germs. The fact that the antibodies which develop from prophylactic inoculations by the same organisms, are identical, shows that the biochemical construction of the attenuated, killed, or live virulent germs is the same and that the essential difference between live virulent and attenuated or killed organisms on tissue cell activities, as far as antibody production is concerned, is inherent with the activities of the live organism.

An infection consists not only in the presence of a foreign protein in the tissues of the body, but the germ causing the infection is a living entity which digests and assimilates food, grows and multiplies; and it is in the performance of these functions that the germ produces its destructive effects. Virulence of an organism depends largely on rate of multiplication; and rate of multiplication is necessarily associated with the effectiveness of the extra-cellular or intra-cellular ferments through which the germ digests and assimilates its food, and it is this activity of the living germ which overwhelms tissue cells.

It is well known that leukocytes will not ingest virulent organisms freely. In all probability this is due to the presence of digestive ferments possessed by the germ which would have a tendency to digest or destroy the leukocyte instead of the leukocyte digesting the germ. So, instead of carrying on phagocytosis, the leukocytes retreat until the germs have become sensitized or rendered less virulent.

Virulent germs will become sufficiently sensitized so leukocytes will readily ingest them, after they have been suspended in immune serum for several hours. During this sensitizing process the immunizing substance contained in the serum combines with or links onto the germ and in a sense neutralizes or destroys the digestive ferments of the germs. Once the digestive apparatus of the germs is crippled they become an easy prey to the leukocytes, and in the process of digesting the germs the leukocytes produce digestive ferments which will in turn sensitize other germs and prepare them for destruction.

It is entirely probable that connective tissue cells and other cells of the body possess the property of secreting ferments for the purpose of

digesting or destroying intruding organisms if properly stimulated; but when these tissue cells are brought in contact with virulent organisms, organisms that possess a good digestive capacity, the growth and digestive activity of the germs have such a devitalizing influence on the tissue cells that instead of producing antibody they are crippled or destroyed, resulting in pus formation or other destructive processes. From this it is clear that until virulent germs become sensitized, tissue cells are handicapped in their efforts to overcome infecting organisms.

Here is where bacterial vaccines come to the rescue. Killed organism injections for prophylactic purposes have conclusively demonstrated that tissue cells are readily stimulated for antibody production when brought in contact with killed germs, and experience shows that tissue cells are just as responsive to antibody production under the influence of killed organisms in the presence of an infection as when employed as a prophylactic. The result is that enough antibody is produced in a comparatively short space of time to sensitize some of the germs in the infected area. This makes them susceptible to destruction by phagocytic action, and from the rapidity with which many of these acute infections subside it appears that the ferments which are evolved as a result of this live germ destruction sensitize more germs, and this sensitizing process and antibody production become cumulative. Live virulent organisms retard and often inhibit immunization, while killed organism injections stimulate antibody production.

With this conception of the workings of the immunizing process the injection of killed organisms in the presence of an extensive acute infection becomes a perfectly rational procedure. At all events the course pursued by virulent infections shows that the infecting organisms possess but slight antigenic properties, whereas killed organism injections regularly stimulate antibody production unless the disease has progressed to a point of tissue exhaustion.

When we come to the question of applying therapeutic immunization it is important to realize that, aside from specific infections like gonorrhea or tuberculosis, a small variety of pathogenic organisms, including the streptococcus, pneumococcus, staphylococcus and colon bacillus

are responsible for the major portion of the diseased conditions encountered in the daily routine of the general practitioner, and that mixed infections by these various organisms are most common. It is not so much the large variety of germs that we must contend with as the large variety of diseases that may be produced by a single species of infecting organism. Clinical symptoms depend largely on the disturbance of the function of the organ which has become infected. The symptoms from a streptococcus infection of the appendix, kidney, heart valve, joint, cerebral meninges, or iris are entirely different, and yet the infection is the same, and from the standpoint of immuno-therapy the treatment would be the same. What is true of the streptococcus also applies to the staphylococcus, pneumococcus and other organisms. Some organisms confine their ravages more to certain parts of the body. The colon bacillus, for instance, causes infections more particularly of the abdominal viscera and pelvic organs, while the pneumococcus causes most of its damage in the respiratory tract and the staphylococcus is responsible for most skin infections. Certain infecting organisms produce quite characteristic symptoms. Rapidly extending infections may safely be ascribed to the streptococcus, while intense localized infections are liable to be due to staphylococci.

The usual infecting organisms in most diseased conditions are well known. The recognition of the characteristic symptoms produced by the various infecting organisms combined with the knowledge that certain organisms prevail in infections of different parts of the body, and that a small variety of organisms cause a large majority of infections, provides a rational basis for the selection of a suitable vaccine and this applies particularly in the early stages of acute infections where early treatment is of so much importance. When the infection is of such a character that a culture can be procured, a bacterial examination to determine the exact character of the infection will in many instances be of decided advantage, but it does not necessarily follow that such an examination is absolutely necessary to obtain good results with the use of a vaccine. Early treatment in acute infections like pneumonia, broncho-pneumonia, mastoiditis, puerperal sepsis,



erysipelas, infected wounds and other similar acute infections, is so important that to delay giving the vaccine for the purpose of verifying the diagnosis by a bacterial examination is just as inexcusable as to wait for a report from a throat culture before giving diphtheria antitoxin. Some of the most striking results in therapeutics are seen from the early use of vaccines in this class of cases and by early treatment I do not mean within a few days after onset of symptoms. These diseases usually start with well marked acute symptoms, often with rigors and other evidences of acute infection. Most people recognize the possible dangers from such symptoms and call a doctor at once. That is the opportune time to start vaccine treatment, and not to wait, as I have often seen, until the next call, largely because there was some doubt about the diagnosis or for the want of a bacterial vaccine for immediate administration. When used early marked improvement may be confidently expected within twenty-four to thirty-six hours, and with a few more inoculations at daily intervals, with few exceptions, the patient will go on to rapid recovery.

As experience increases, doctors are steadily, surely drifting toward giving mixed vaccines the preference. There are several reasons for this: In the first place mixed infections are common and a vaccine containing all the highly pathogenic organisms present in an infection certainly gives better results than if therapeutic immunization is directed only toward the primary infection. Where single organism infections exist, mixed infections are liable to take place before the primary infection is disposed of. By giving a mixed vaccine containing the organism corresponding to the infection and other organisms to meet probable complicating infections, we immunize therapeutically toward the existing infection and prophylactically toward a probable infection. In deep-seated infections it is often impossible to know just what the infecting organism is, but from the clinical symptoms and history of the case a reasonable conclusion may be drawn that the infection is one of several organisms or a mixed infection. Under such conditions a mixed vaccine often serves a very good purpose. The criticism is advanced that this is unscientific, hit or miss, poly-pharmacy. The criticism here does

not apply, because, by this method we are much more liable to hit than miss and instead of being poly-pharmacy it is poly-therapy and prophylaxis. What possible harm can come from being prophylactically immunized to the streptococcus and staphylococcus by giving a vaccine containing these organisms combined with the pneumococcus in a pneumococcus infection? If there were the least therapeutic evidence that a mixed vaccine is less efficient than a vaccine which just meets the organisms in the infection, the objection would be valid, but the experience shows that at least as good, if not better results are obtained from the use of the mixed preparations, even in infections by a single organism.

Theoretically it would appear that in extensive acute infections vaccines should be employed in smaller doses than in subacute and chronic ailments; but from experience we find that the reverse is true, and the recognition of this fact is important. In extensive acute infections larger doses are tolerated with evidences of less reactions and they may be given at shorter intervals than in subacute and chronic cases. In these cases the initial dose is two to three times as large as when starting treatment in chronic infections and inoculations are preferably made at daily intervals, whereas in chronic infections they are injected five to seven days apart.

In the daily application of bacterial vaccines the tendency is in the direction of employing stock preparations, and there are reasons for this. Autogenous vaccines, on account of the time required for their preparation, can not be applied to the best advantage in the early stages of acute infections. The average doctor, who is imbued with the idea that stock vaccines are "unscientific and useless," seldom procures a culture for the preparation of an autogenous vaccine at his first visit when called to treat an acute infection, but as a rule, institutes the expectant plan of treatment. If the case progresses favorably symptoms develop, a consultant may be called, and a bacteriologist employed to prepare an autogenous vaccine. By the time the vaccine is given the infection may be so far advanced that the attempt at therapeutic immunization is useless. The doctor consoles himself with the idea that by employing an autogenous vaccine the case was treated scientifically, whereas from the

viewpoint of vaccine therapy the case was most unscientifically taken care of. Such experiences do not enthuse a doctor in his estimation of the value of vaccines and in all probability no autogenous vaccine will be employed in his next case. If the doctor can be persuaded to use a stock vaccine early in a similar case and obtain striking results, he will try them again and soon learn to appreciate their therapeutic advantages and use them. On account of not being readily procured, the autogenous vaccine user does not regularly employ them in the so-called minor ailments like colds, tonsillitis, bronchitis, boils, infected skin abrasions, conjunctivitis, corneal ulcers, otitis media, etc., which often run a prolonged course and not infrequently such focal infections are the direct cause of a more serious localized infection in a remote part of the body like pneumonia, endocarditis, arthritis, appendicitis, or a cholecystitis; whereas, the stock vaccine user employs them regularly in this class of cases, and thereby gains the advantage of early immunization, resulting in more rapid recoveries and makes the development of the more serious infections of infrequent occurrence. Many infections are so situated that the organism cannot be procured for the preparation of an autogenous vaccine. By employing a vaccine containing the organisms usually found in such infections, much can be accomplished in such cases.

For these and many other reasons stock vaccines are gaining the preference. Extensive vaccine users employ stock preparations, but from this we should not infer that they do not employ autogenous preparations as well. Autogenous vaccines have their place and, as a rule, doctors who employ stock vaccines regularly more frequently find occasions for having autogenous vaccines prepared than doctors who do not employ stock preparations extensively.

The greatest advances in the prevention and cure of disease have been brought about through immunization. The use of bacterial vaccines in the more common infections is both prophylactic and therapeutic; prophylactic in that the infection is brought under control, and in this way prevents more serious diseases, and therapeutic in that the existing infection is more rapidly eliminated.

## PREGNANCY COMPLICATED BY SYPHILIS.

HARRY A. KRAUS, M. D.,  
CHICAGO.

Assistant Professor Genito-Urinary Diseases, Chicago Polyclinic Hospital; Dermatological and Genito-Urinary Staff of the German Hospital; Genito-Urinary Staff, Alexian Brothers Hospital; Genito-Urinary and Dermatological Staff, North Chicago Hospital.

There is probably no other subject in medicine that is at the present time being so thoroughly revolutionized as the theory of pregnancy complicated by syphilis. Old traditions and laws that have been heralded down for centuries have been altered and rent asunder since the discovery of the *Spirochaeta pallida* as the actual cause of syphilis, and the blood tests of Wassermann, Noguchi and others. Out of this chaos we are able to glean pertinent facts some of which are as bewildering as interesting.

Women are infected directly by means of coitus, or from mucous patches in extragenital localities. The old idea of paternal infection of the ovum and subsequent infection of the woman has been shown by Trinchere to be false. He demonstrated the fact that the spermatozoon is smaller than the spirochaeta and cannot carry the latter. Besides the destructive effect which the spirochaeta would exert upon the endometrium and ovum would result in an abortion in a very short time. Hutchinson and Fournier believed that not only the ovum may be infected by the father, but that the mother may be infected by the offspring, basing their argument upon the fact that some mothers develop secondary lesions without initial lesions (conceptional syphilis) and following an energetic anti-syphilitic treatment of the father, miscarriages may be stopped in a wife who herself has never shown syphilitic manifestations; a woman showing no signs of syphilis gives birth to syphilitic children.

1. *Effects of Pregnancy on Syphilis.* If a woman has a genital chancre at the time of conception or develops one during the early stages of pregnancy its course is often protracted, the ulcerations become deeper and more extensive than usual. Secondary lesions around the vulva and anus are aggravated, the mucous tubercles may attain a large size, ulcerate or become phagedenic. Headaches, neuralgia and anemia are often more severe when associated with pregnancy. Occasionally syphilis runs its usual course unaffected by the existence of pregnancy.



2. *Effect of Syphilis Upon Pregnancy.* It is a fertile cause of abortion and premature delivery. Repeated miscarriages between the sixth to the eighth month are always strong presumptive evidence of syphilis. If syphilis is acquired during or at the time of conception it may lead to abortion. It may lead to premature delivery of a dead fetus if acquired at this time or during the first three or four months of pregnancy. If acquired later, death of the fetus and premature delivery are not likely to occur. In cases of insufficient treatment or of recently acquired syphilis abortions are the usual sequence. The ovum is usually expelled in the sixth to the seventh month, although abortions in the third and fourth month are not uncommon. Syphilis in itself is not sufficient to produce abortions, and when they do occur there is some additional cause present. In the majority of cases miscarriages or premature labor is produced by the death of the fetus. This may be produced by the action of the toxins upon the placenta, rendering it useless for further nourishment to the child, or by the action of the poison on the child itself with or without production of visceral lesions. Hydramnios is sometimes due to syphilis, and may lead to occurrence of premature labor.

3. *Effect of Syphilis Upon the Ovum.* This varies as to whether the infection is ante or post-conceptional. The old idea was that syphilis could not be transmitted to the child if the mother acquired the infection after the sixth month. The present opinion is that the infection of the fetus occurs in the second half of pregnancy; those of the first half have never been definitely proven. Recent untreated cases are likely to produce more severe results than if the disease be of long standing. The tendency to transmit disease becomes lessened with time. In acute conceptional syphilis the ovum may contain the spirochaeta at the time of conception, or the infection may occur later during gestation through the placenta. If a woman having syphilis becomes pregnant one of the following may happen to the ovum:

1. The child may be born healthy at term and remain free from signs of disease.

2. The child may be born apparently healthy at term, but may develop signs of syphilis in 3-6 weeks.

3. The child may be born alive at full term,

and show distinctive symptoms at birth (neonatal.)

4. The child may be born alive at full term and free from distinctive symptoms, but soon show other symptoms, which are the result of disease (hemorrhage, jaundice, etc.)

5. The child may show various congenital malformations.

6. The child may die and be expelled prematurely without exhibiting any definite syphilitic lesion in itself or placenta.

7. The child may die and show characteristic lesions in placenta.

8. The embryo may die in the early months of pregnancy and thus an abortion will follow.

Lues, fatal to the embryo, runs a short and acute course, a spirochaetal sepsis, beginning and ending in the majority of cases during the intra-uterine existence.

Sperm infections furnish the most interesting part of this subject. Whether it is possible for the spirochaeta to enter the ovum at the same time as the spermatozoon is a matter of conjecture. The literature shows cases where women, after having given birth to healthy children, have had syphilitic children from a syphilitic father and who later gave birth to healthy children from a non-syphilitic father without ever showing any signs of syphilis and without ever having taken any treatment. Another case shows a woman who having had syphilitic children by a syphilitic father, after careful, energetic treatment of the father, had two healthy children. Another case is that of a woman who gave birth to a syphilitic child by a syphilitic father—later giving birth to a non-syphilitic child by a non-syphilitic father, and later still giving birth to two syphilitic children by a syphilitic father. It is correct to assume that the ovum is infected by the placenta, and not the placenta by the ovum, and that the ovum is infected in the later stages of pregnancy, since the syphilitic lesions appear upon the child only a short time before its birth.

*Treatment.*—If the life of the child is to be saved, early treatment must be instituted, the earlier and the more energetic we pursue the treatment the better the result. If we wait beyond the middle period of pregnancy we rarely save the child. Such deaths are due to sepsis from the liberation and the death of spirochaetae from the placenta or from the child itself. A mixed treatment of mercury and arsenic (salvarsan,

neosalvarsan, cacodylate of sodium) seems to give the best results. Meyer reports that following such treatment there resulted 97.4 per cent living children born, of which only 15.8 per cent showed a positive Wassermann test at birth. He demonstrated that the placenta shows the relative amount of arsenic circulating in the blood, and that a normal placenta will not allow arsenic to penetrate it, while a luetic one does.

Children born without syphilitic lesions of syphilitic mothers and showing a negative Wassermann must undergo treatment. Despite the fact that in the late stages of pregnancy many miscarriages follow intravenous neosalvarsan injections, and toxic nephritis of the mother may result, it is very necessary to institute such a procedure as soon as possible. We use a soluble salt of mercury, salicylate, bichlorid of the oxycyanate and inject intramuscularly, using the gluteal muscles; a daily injection, advancing in amount up to the point of salivation. We keep the patient at this point until all visible signs of syphilis, including the adenitis, has disappeared, combining this treatment with a weekly intravenous injection of neosalvarsan 0.1.

25 E. Washington street.

### PHYSICIANS' ACCOUNTS.\*

C. M. KINGERY,

CHADWICK, ILL.

Cashier First National Bank.

*Gentlemen:*—I come before you this afternoon, not from choice, but by coercion, and my esteemed friend, Dr. Hartfield, is guilty of the charge. My doctor has asked me to give you my plans and ideas on how doctors should handle the business end of their profession. I am of the opinion that you know that you must do more or less collecting and the best and most efficient way to do it, as I see it, is what I am to talk about.

Now you doctors, as a rule, have the reputation of being careless or indifferent along the line of collections. I am of the opinion that you are so very busy looking after your patients' welfare, together with the time consumed in study and research so that you may keep abreast of the rapid strides now being made in medicine and surgery, that you have but little or no time left to devote

to the business side of your profession. As to the doctor being a poor business man, I do not believe it! There is no reason why you should be less of a business man than anyone else. The trouble is that you are the victim of circumstances or conditions peculiar to your calling. The successful physician must think in medicine. His ideas must be along medical lines, his every action must be governed by the desire to be successful in his chosen profession. To be a successful doctor means complete submission to your noble calling. No wonder, then, that a busy doctor finds but little time to cultivate the other side of his practice, and the busier he is the less of himself he can spare for the collection of his accounts.

The doctor faces heat and cold. He wrestles with death at dawn, noon and midnight, he relieves suffering, dispels misery, bears the burdens of others. He supports the young mother through the pangs and perils of child-birth and gives the child a first start upon the road of life. He wards off disease when possible, and when illness comes he endeavors to restore health as quickly as possible, working always faithfully for others and never thinking of self. It is not to be wondered at that the doctor is often a poor collector, but no man earns his money more honestly than he. But with all of this there still remains the collections or business side of medicine, and the sooner you learn that it is a side that nobody will look after for you, that is if you neglect it, the better it will be for you.

Your bills covering the purchases of necessary supplies, such as groceries, clothing, etc., must be met at least monthly. If otherwise, you will soon find out how men in other lines of business make their collections. I presume you are prone to think and speak a little bitterly of those who allow the doctor's bill to run, yet it is often an evil that is due to lack of thought more than to want of heart on the part of your guilty debtors. As a matter of fact, few people realize the rank injustice they do the doctor, and you must also confess that you do not take the pains to make them realize that it is their duty to pay their doctor's bill promptly. No real good can come to either party concerned from neglect in this matter, but quite the reverse. The longer a bill runs the harder it is to collect, so that, while a patient who pays his debt promptly does so with a feeling of value received, the one who allows his to re-

\*Read May 9, 1916, at a meeting of Carroll County Medical Society.



main unpaid for months after the termination of service actually feels resentful at being expected to pay at all. After all, the majority of patients are honest and desire to pay doctor's bills, but they drift into the habit of letting the doctor's bills remain unpaid until the last one, and I am quite sure that you doctors have helped them along in this matter by your leniency with them, because you did not insist on an early settlement of some kind. Most business firms render bills at least once a month, and there is no earthly reason why a doctor should not do the same thing—indeed, there is every reason why he should. If you are careless in sending out bills or statements either because you are too busy or because you are afraid of hurting someone's feelings, you will lose a large part of the money owing to you and in all probability may be compelled to borrow funds so that you may meet your maturing bills promptly. When you are compelled to resort to the method just mentioned, then you have another burden placed on you, because most banks feel that it is their duty to charge you 7 per cent. on such accommodations, just to even up a little you know, therefore you are paying 7 per cent. for the funds that you are using, while your book accounts are not drawing you one single penny in the way of interest. Now, I am quite sure that all of this can be overcome by your using the proper method in making your collections.

In the first place, I should decide on the time that I would be willing to give to my patients to meet their bills, which, by the way, could vary from 30 to 90 days. At the expiration of that time I would send them an itemized statement of their account, marking the date of notice or statement of their account to be used for future reference. This will guide you in ascertaining how long it will take the patient to respond to your notice. In case he does not report in, say, 10 or 15 days, send him another notice, but do not threaten to sue him, as persistent courtesy and kindness will collect every bill which can be collected. Of course, there will be some exceptions, but not many. If cash is out of the question when party calls or you meet him, get him to sign a note for 60 or 90 days or even longer if necessary and you will find that this is not a hard thing to do and you will find that notes are better assets than open accounts, besides notes bear interest and accounts do not. In sending out your first or second statement, whichever you

think is best, you might include a personal letter, couched in the most considerate and courteous language possible, which might read something like this:

Dear Sir:—I would be grateful if you would kindly bear the enclosed statement in mind and remember me during the current month if possible. If impossible to make even a small payment, please call and we will talk the matter over. Thanking you for the anticipated courtesy of a reply or call, I beg to remain,

Very truly yours.

I believe if I were a doctor I would carry one of the small and compact loose leaf ledgers with me and after making my call I would at once and in the presence of the patient or payer, make the charge or entry. By so doing you will create a desire on his or her part to know how much the bill is and you will be surprised to find that many will pay cash on the spot.

There are several things a doctor should not do in collecting. For instance, never refuse to accept payment when offered, saying there is no hurry about this.

Never say I am hard up and need the money. In sending out your statements I would itemize the first one, but no more. If an explanation is necessary, let the comments come from the other man.

To sum it all up, you must use system in keeping your accounts. System and regularity in sending statements. A follow-up plan to see that your statements are settled either by cash or note. You must be persistent in your efforts to collect, but always with courtesy. Keep your temper, think well of your patients and they will think well of you. If you will install one of the many good systems of keeping your accounts, such systems being advertised in your medical journals, I would much prefer the itemized ledger plan, inasmuch as you can immediately tell a patient or debtor just how his account stands, as well as inform him on any entry in your ledger. Then you must absolutely see that all accounts are properly posted and make a practice of looking over your accounts at least once each month, sending out your statements at the proper time. This may look like a lot of work to a busy doctor, but just bear in mind that you must do it some time, so let's do it at once and get the results that must come from a well planned account keeping system.

My experience in handling country collections

and accounts covers a period of 25 years, and I shall be pleased to try to answer any questions that any member of this association may wish to ask.

### BLOOD FERMENTS IN PREGNANCY.\*

THE OBSTETRICAL SEMINAR SECTION 1915-1916,  
UNIVERSITY OF ILLINOIS, COLLEGE  
OF MEDICINE.

MESSRS. M. LAMPERT, H. B. KATZ, R. KING, R.  
G. KLINE, B. J. KULASAVICZ, D. W.  
JEFFRIES, AND MISS H. P. KUT-  
ZENBERGER.

Directed by Dr. F. H. Falls, M. S., M. D.  
Instructor in Obstetrics.

The history of blood ferments is comparatively modern. It seems strange that so important a subject should receive so little attention up to the present time because of its importance in almost every diseased condition. Investigations in this field practically all date back only five or ten years.

The earliest studies of the blood itself were made as early as 4000 B. C. by the Babylonians, who noticed the appearance of blood in the process of venesection and considered its appearance as an index of the prognosis. The researches of Pasteur on yeast and other organisms formed the groundwork for knowledge on ferments in general. The ferment content of the blood was first suggested by the researches of Emil Fischer in the protein synthesis. His work gave us the first good conception of the nature of ferment activity. Ferments, he stated, were substances having a specific action in affecting only certain chemical compounds, being related as intimately as a key to a lock.

Emil Abderhalden, pupil of Fischer, also made a number of investigations of metabolism. In 1912 he took up the study of protective ferments of the animal body and evolved a biochemical test for pregnancy and other conditions, based upon ferment action.

A great mass of data has been accumulated since the pioneer work of Abderhalden in this field. The researches of this investigator has added much to our knowledge of the subject of blood ferments and the eagerness with which the

work has been taken up and advanced by other men all over the world demonstrates the theoretical importance of his conceptions and lends hope to the view that considerable knowledge of practical importance will be derived from these studies.

Let us first consider the early experiments of Abderhalden and see upon what foundation were laid the cardinal principles of his theory of the action of blood ferments. It is a matter of common knowledge that under ordinary circumstances substances in order to supply nourishment to the body cells go through the following process of preparation:

First they are converted into the end products of pancreatic digestion by the action of specific enzymes in the alimentary canal.

Next they are absorbed by the epithelium of the gastro-intestinal tract and are carried in the most part to the liver, where they are acted upon by the liver cells and, as necessity demands, supplied to the blood.

Abderhalden conceived the idea of injecting carbohydrates, fats, and proteins directly into the blood stream to determine if such substances could be utilized by the body when introduced in such a manner. It will be seen from what has been said before that the body under normal circumstances is protected from foreign or disharmonious substances by the interposition of the gastrointestinal tract and the liver.

"Does the blood contain substances which are capable of breaking down complex molecules of protein and carbohydrates and fat so that these substances may be used by the body cells?"

He proceeded to prove this point by injecting cane sugar into the blood stream direct. He came to the following conclusions:

1. Cane sugar parenterally introduced is split up into its constituent dextrose and laevulose and a very small portion of it remains to be excreted by the kidneys as sucrose.

2. When the material introduced was not of too foreign nature, something was formed and thrown into the blood plasma which destroyed the structure of the material introduced.

Similar studies were made concerning the behavior of the animal organism toward parenteral introduction of substances belonging to the class of albumins, such as egg albumin, polypeptides, peptones, and finally proteins from different

\*From the Department of Obstetrics, University of Illinois, College of Medicine, Chicago.



sources. Here also something was formed to split up the material of foreign nature.

Thus it was supposed from the results of many researches that the animal organism is protected from the introduction of foreign material into the blood plasma by the presence of substances which, by means of specific activity, break down a complex molecule such as that of egg albumin into simple indifferent products which are not injurious to the body cells. By further experimentation these substances were demonstrated to be ferments which are, as before stated, specific in nature, affecting only certain substances in certain media.

Granting these views to be correct, it should be possible to trace substances that are in harmony with the body but not with the blood by looking for definite ferments, and this was found applicable to many conditions, most important of which was pregnancy. During pregnancy observations have shown that chorionic villi are torn off and enter the blood stream. These are not in harmony with the blood stream and are therefore destroyed by some agent, probably an enzyme.

To prove or disprove this, experiments were made with the serum of non-pregnant and pregnant individuals. A definite quantity of serum and of placental tissue, specially prepared, were placed in a dializing thimble and the latter placed in a container with distilled water on the outside of the dializing membrane. The whole was then placed in the incubator for 24 hours. Ferment action between the serum and placenta would form amino acids on the inside of the dializing thimble which would immediately dialize through into the distilled water. Testing the latter, therefore, for amino acids would reveal the presence of ferment action between serum and placenta. Abderhalden states that this action is specific in that serum from pregnant individuals will not digest other proteins besides placenta and serum from non-pregnant individuals will not digest placenta.

Positive reactions were present in all normal pregnancies.

In thirty cases a differential diagnosis was made between ectopic pregnancy and tumors of the generative tract.

So specific was the test that in one case where a clinical diagnosis of salpingitis was made the Abderhalden was positive. The woman was oper-

ated upon, her salpinx removed, but her Abderhalden remained positive. Menstruation ceased, the uterus enlarged and later a diagnosis of intra-uterine pregnancy was made. Such results from so distinguished a scientist as Abderhalden were received with great enthusiasm by men all over the world and a great deal of data rapidly accumulated regarding the test.

The early workers in this country were very enthusiastic regarding the test at first. However, the test was taken up in many laboratories and reports regarding the nonspecificity of the reaction soon began to make their appearance.

The first extensive investigation, in this country, to prove or disprove these facts was made by Falls,<sup>1</sup> who investigated a large number of sera from males suffering from various diseases together with a number of sera from pregnant or puerperal females. The results are seen in Table I.

TABLE I.

Disease or Condition	No. of Cases	Positive	Negative
Pregnancy cases.....	29	27	2
Puerperal pregnancies.....	7	1 Strongly 6 Weakly	0
Lobar pneumonia.....	19	17	2
Articular rheumatism.....	8	7	1
Typhoid.....	5	5 Weak	0
Tuberculosis.....	6	5	1
Nephritis.....	11	10	1
Cancer.....	8	4	4
<i>Meningitis—</i>			
Luetic meningitis.....	2	1	1
Tubercular meningitis.....	2	1	1
Epidemic meningitis.....	1	1	0
Diabetes.....	5	4	1
Fibroids.....	4	2	2
Pernicious anemia.....	2	2	0
Splenomyelogenous leuk.....	1	1	0
Malaria.....	1	1	0
Hypopituitarism.....	1	1	0
<i>Nervous Diseases—</i>			
Tetanus.....	1	1	0
Dementia praecox.....	1	1	0
Scurvy.....	1	0	1
Lues.....	2	2	0
Chorion epithelioma.....	1	1	0
Normal people.....	7	4	3

Later other workers using more complicated chemical methods abundantly confirmed his results.

Immediately the objection was made by Abderhalden and his co-workers as well as the advocates of the specificity of the test in this country that the test was not properly done by the above men. Various possible sources of error in technique that might interfere with the reaction were advanced, some of which were plausible and some so weird that they spoke volumes for the ignorance of serological methods possessed by their authors. One rather important fact was pointed out by Falls<sup>1</sup> that Abderhalden himself was continually

<sup>1</sup> Jour. A. M. A., 1914, lxiii, 1172.

advising modifications of the technique in spite of his claims of perfect success in every case examined. Bronfenbrenner<sup>2</sup> supported the idea of the specificity of the ferments as suggested by Abderhalden and the results of his work may be summarized as follows:

1. The Abderhalden reaction is specific.
2. The properties of serum upon which it depends develop in experimental animals simultaneously with antibodies during the process of immunization.
3. It is impossible to observe by direct methods the presence of digestive ferments in the blood of immune animals.

4. The Abderhalden test may be resolved into two phases. A dialyzable substance appears in the second phase and is the result of the autodigestion of serum protein.

5. The autodigestion of serum in the Abderhalden test is due to the removal of antitrypsin from the serum by the sensitized substratum. Schwartz<sup>3</sup> was an enthusiastic advocate of the test in the early phase of this work and claimed specific reactions for cancer as well as pregnancy. He has since modified his views, however, and is doing very little work along this line at present.

Having made the necessary changes in the technique of these tests as suggested by Abderhalden, the workers, negating the latter's theories, found after much investigation that their results were not materially altered thereby and their views are well expressed in the following summary of Jobling<sup>4</sup> and his coworkers:

1. During pathologic conditions the non-specific protease of the blood is increased in both human and dog serum.

2. During the Abderhalden the following takes place:

(1) Placental tissue\* absorbs antiferment from the serum.

(2) It therefore becomes more resistant to fermentation.

(3) The dialyzed serum thus rendered devoid of antiferment permits digestion not of the placenta but rather of a substrate of serum protein furnished by the dialyzed serum.

(4) Therefore these proteoses found in pregnancy are not specific for placenta tissue at all.

This summarizes the work that has been done so far and demonstrates the complexity of the problems involved. The following conclusion from Falls<sup>5</sup> expresses the attitude of most workers toward the Abderhalden and its allied problems:

1. The Abderhalden test is not a specific and infallible test for the diagnosis of pregnancy, cancer or any other condition.

2. A negative reaction in a given case is of great value as speaking against the possibility of pregnancy.

3. A positive reaction must be interpreted as only speaking for the diagnosis of pregnancy and that only in absence of a large number of pathologic conditions to some of which attention has already been called.

4. The ferments are increased in the blood during pregnancy. As yet, however, no way has been devised of differentiating between these ferments and the ferments mobilized in many pathologic conditions.

5. The test should be done in all cases in which the diagnosis of pregnancy is in doubt, with a full knowledge of its limitations and possible errors. It should be regarded as corroborative evidence together with other clinical phenomena.

These conclusions are in accord with what any one familiar with biologic reactions would expect. There is no known serum test or reaction at the present time that is absolutely reliable for diagnostic purposes. The Wassermann reaction can not be relied upon in all cases, and the same can be said of various complement fixation and precipitin tests. Nobody doubts at the present day the value of the Widal reaction in typhoid fever, and yet no clinician would care to base a diagnosis of typhoid on that alone and insist he could not be wrong.

The subject should be approached from a broad view and the Abderhalden test must be given its place along with other biologic reactions. Its value as a diagnostic measure must be decided by the slow accumulation of facts, by careful workers in scientific laboratories; and its right to endure must depend on their verdict.

However much one disagrees with Abderhalden's views as to the specificity of his test, the theoretical importance of the phenomena that he

2. Bronfenbrenner, J.: *Jour. Exp. Med.*, 1915, xxi, 227.

3. Schwartz, H.: *Amer. Jour. Obs.*, 1914, lxix, 54.

4. Jobling, Eggstein & Peterson: *Jour. Exp. Med.*, 1915, xxi, 239.

5 Falls: *Jour. A. M. A.*, 1915, lxiv, 1898.



has called attention to can hardly be overestimated. He has pointed the way and by his enthusiasm interested a large number of men along the same lines. At the present time ideas are being advanced that bid fair to profoundly modify our ideas of immunity and chemical pathology as understood up to the present time. It is probable that further statistics along the lines of ferment action, by better methods than any that have so far been devised, will give results that will help materially in clearing up many of the dark spots in knowledge of medicine.

Mr. W. C. Crosby, one of the health organizers of North Carolina, must be some word painter, as witnessed by press bulletin:

"At present, Mr. Crosby is stirring up his people on the subject of the fly as a filthy disease-carrying insect, and advises how by destroying this pest, especially their breeding places, that typhoid, diarrhoeal diseases of babies and other germ diseases incident to country life in the summer can be greatly reduced. Mr. Crosby evidently does not mince matters when it comes to the fly story, for it is said one of his hearers accosted him recently with the remark: 'I like to hear you talk on other things, but excuse me from the subject of the fly. I heard you on that subject the other day and I just naturally had to spit all the way home and could eat no dinner on getting there, so sick was I for thinking of that nasty fly.'" "What are you going to do about it?" asked Mr. Crosby. "'Fight like fire,' said he, 'for never again can I be comfortable with them around.'"

#### DO YOU KNOW THAT

It's worry, not work, which shortens life?

A cold bath every morning is the best complexion remedy?

Poor health is expensive?

The U. S. Public Health Service has reduced malaria 60 per cent in some localities?

The death rate from typhoid fever in the United States has been cut in half since 1900?

Pneumonia kills over 120,000 Americans each year?

Flyless town has few funerals?

The well that drains the cesspool is the cup of death?

Dirty hands spread much disease?

A high bred dog has a right to have his birth registered—so has a baby?

The U. S. Public Health Service guards American ports to exclude foreign disease?

Health is a credit with the bank of nature?

A clean garbage can is a good example to the family?

Filth breeds flies—flies carry fever?

Slouchy postures menace health?

Health brings happiness—sickness, sorrow?

#### POISONOUS EXHAUST GASES.

The products of combustion and partial combustion which are thrown out through the muffler are often very poisonous when not freely diluted with air. This indicates that in small, close rooms the engine should not be run for any length of time.

#### EXAMINE YOUR SPARK PLUGS.

The vibrations and concussions of use will often cause to work loose the nut that holds the porcelain in the spark plug and cause a leakage of gas. Such a leakage will result in misfiring. Examining with the fingers will not avail. Put a wrench on and tighten up the nut occasionally.

#### LEAKING VALVES.

The first symptoms of a leaking engine valve is a hissing sound when compression occurs in that cylinder. To confirm the hint thus given test the compression by turning the crankshaft over slowly.

#### RAILROAD TIME TABLES.

"All Roads Lead to Ottawa."

##### ROCK ISLAND LINES—WEST.

Chicago	.....Lv.	9.00 a. m.	1.00 p. m.
Joliet	.....Lv.	10.02 a. m.	2.15 p. m.
Morris	.....Lv.	10.40 a. m.	2.52 p. m.
Ottawa	.....Ar.	11.13 a. m.	3.37 p. m.
Utica	.....Ar.	b.	3.50 p. m.

##### Going West.

Davenport	.....Lv.		1.05 p. m.
Rock Island	.....Lv.		1.15 p. m.
Bureau	.....Lv.	9.20 a. m.	3.32 p. m.
Peru	.....Lv.	9.45 a. m.	4.00 p. m.
La Salle	.....Lv.	9.48 a. m.	4.04 p. m.
Utica	.....Ar.	9.57 p. m.	4.15 p. m.
Ottawa	.....Ar.	10.10 a. m.	4.30 p. m.

b. Stops for passengers from Chicago.

##### BURLINGTON ROUTE.

Chicago	.....Lv.	8.00 a. m.	4.35 p. m.
Aurora	.....	9.44 a. m.	5.48 p. m.
Ottawa	.....Ar.	11.21 a. m.	7.20 p. m.

Utica is the railroad station nearest Starved Rock. See advertisement of electric line on page 8.

## Illinois State Medical Society

### OFFICIAL MINUTES OF THE SIXTY-SIXTH ANNUAL MEETING HELD AT CHAMPAIGN,

MAY 16-18, 1916.

#### MEETING OF THE HOUSE OF DELEGATES.

*Tuesday, May 16, 1916, 8:00 p. m.*

Meeting called to order by President Charles W. Lillie, of East St. Louis.

Report of Committee on Credentials.

Moved and seconded that delegates be seated.

Roll call of delegates showed a quorum present.

Moved and seconded that the reading of the minutes of last meeting be dispensed with and that the minutes of last meeting be approved as printed in the JOURNAL. Motion prevailed.

President Lillie: The next in order is the report of the secretary.

#### SECRETARY'S REPORT

##### *Gentlemen of the House of Delegates:*

Your secretary begs leave to report the collection of the following amounts, from all sources, from Jan. 1, 1915, to Dec. 31, 1915, or for the fiscal year, and from Jan. 1, 1916, to May 1, 1916. This double report is made necessary by the by-laws which were adopted at the sixty-fifth annual meeting. Of the amounts read for each component society the first is for the last fiscal year and the second for four months of the current year:

- County—	1915	1916	County—	1915	1916
Adams .....	\$228.00	\$103.00	Hamilton .....	29.50	22.50
Alexander .....	57.50	55.00	Hancock .....	66.75	40.50
Bond .....	37.00	....	Hardin .....	5.00	5.00
Boone .....	42.50	40.00	Henderson .....	27.50	27.50
Browne .....	12.50	7.00	Henry .....	99.50	82.50
Bureau .....	111.50	....	Iroquois-Ford .....	96.50	163.50
Calhoun .....	8.00	....	Jackson .....	72.50	50.00
Carroll .....	71.50	40.00	Jasper .....	20.00	17.50
Cass .....	40.00	30.00	Jefferson .....	54.50	77.50
Champaign .....	209.00	99.50	Jersey .....	28.00	25.00
Christian .....	64.50	136.00	Jo Daviess .....	37.50	20.00
Clark .....	58.00	....	Kane .....	131.00	155.00
Clay .....	38.00	24.00	Kankakee .....	124.50	62.50
Clinton .....	53.50	5.00	Kendall .....	12.00	2.50
Coles .....	74.00	35.00	Knox .....	143.50	80.00
Crawford .....	102.50	62.50	Lake .....	92.00	96.50
Cumberland .....	20.50	7.50	LaSalle .....	28.00	227.50
Cook .....	6372.50	5000.00	Lawrence .....	58.50	30.00
DeKalb .....	81.00	47.00	Lee .....	....	94.50
Dewitt .....	82.50	....	Livingston .....	85.50	24.50
Douglas .....	53.00	50.00	Logan .....	72.00	35.00
Edgar .....	64.00	57.50	Macon .....	150.50	8.50
Edwards .....	20.00	....	Macoupin .....	142.50	102.50
Effingham .....	44.50	65.00	Madison .....	221.50	212.50
Fayette .....	17.50	15.00	Marion .....	40.00	107.50
Franklin .....	70.00	27.50	Marshall-Putnam .....	40.00	50.00
Fulton .....	129.00	76.50	Mason .....	47.50	....
Gallatin .....	27.50	30.00	Massac .....	32.50	37.50
Greene .....	71.50	....	McDonough .....	88.00	92.50
Grundy .....	39.00	2.50	McLean .....	231.50	160.00

McHenry .....	83.50	92.50	Scott .....	17.00	....
Menard .....	24.00	37.50	Shelby .....	34.50	42.50
Mercer .....	30.00	47.50	Stark .....	17.00	5.00
Monroe .....	22.50	52.50	St. Clair .....	228.00	157.00
Montgomery .....	155.50	91.50	Stephenson .....	107.50	112.50
Morgan .....	165.50	80.00	Tazewell .....	69.00	64.50
Moultrie .....	14.00	....	Union .....	12.50	27.50
Ogle .....	87.50	15.00	Vermilion .....	249.50	20.00
Peoria .....	462.50	57.50	Wabash .....	85.00	37.50
Perry .....	57.50	5.00	Warren .....	44.00	57.50
Piatt .....	79.00	....	Washington .....	42.50	40.00
Pike .....	82.25	67.50	Wayne .....	53.50	28.50
Pope .....	7.50	5.00	White .....	42.50	45.00
Pulaski .....	32.50	22.50	Whiteside .....	138.00	67.50
Randolph .....	69.00	....	Will .....	143.50	50.00
Richland .....	36.50	7.50	Williamson .....	38.50	90.00
Rock Island .....	196.00	137.50	Winnebago .....	244.50	132.00
Saline .....	92.00	....	Woodford .....	54.50	49.00
Sangamon .....	332.50	282.50	Subscription .....	45.00	26.45
Schuyler .....	16.50	12.50	Exhibits .....	719.37	182.50
Total for 1915 .....	\$14,919.87				
Total for 1916 .....	10,373.95				

Total for sixteen months.....\$25,292.82

That a comparison may be made with the collections from May 1, 1914, to May 1, 1915, as reported last year, the amount received for the same period in 1915 and 1916 was \$15,524.95.

For the fiscal year, from Jan. 1, 1915, to Dec. 31, 1915, 187 voucher checks were issued for \$22,063.13, of which sum \$14,597.88 was for the general expenses of the society, including the JOURNAL, and \$7,465.25 for Medical Defense. From Jan. 1 to April 30, 1916, 54 voucher checks were issued for \$7,586.06, \$5,881.58 for general expenses and \$1,704.48 for Medical Defense. For the entire sixteen months covered by this report, \$20,479.46 was expended for general expense and \$9,169.73 for Medical Defense, a total of \$29,649.19. For the period usually covered in the report of the secretary, that is, from May 1, 1915, to May 1, 1916, the total expenditure amounted to \$20,095.06, or \$15,329.71 for general expense and \$4,765.35 for Medical Defense, a net saving over the same period in 1914-15 of \$1,971.84 in the general fund and \$1,237.78 in the Medical Defense fund.

Owing to the adoption of Sec. 11, Chap. X, of the By-Laws, the membership of the Society has of necessity decreased, for it seems impossible to remind every member that his per capita for the current year must be paid by Dec. 31. Copies of the new Constitution and By-Laws, together with a letter calling the attention of the membership to the above section were in the hands of the secretaries of the component societies last September, and a notice was published in the JOURNAL saying this section would be enforced, yet 937 members fell by the wayside. The membership on May 1, 1915, was 6,501; 1,071 have been dropped, 40 died, 224 have been reinstated and 477 new members have been added; the membership May 1, 1916, being 6,091, all paid up to Dec. 31, 1915, at least. As many members are being reinstated, I feel certain that the membership for the current year will show a normal increase.

The component societies are all in fairly healthy condition except one. Johnson county does not have





WILLIAM L. NOBLE, M. D.  
PRESIDENT ILLINOIS STATE MEDICAL SOCIETY, 1916-1917





a Medical Society. This county has always been one of the delicate family in Egypt and the election of an uninterested secretary at their last meeting put the finishing touches to it. Two efforts were made during the past year to reorganize this county but without success. However, this will probably be accomplished in the near future. Two counties have taken a new lease on life, due to the activities of our President, and one county in the Second district was rescued by prompt action on the part of the Councilor from that district. There is only one reason why a once active Medical Society ceases to exist—a dead secretary.

At a meeting of the Council held in October, 1915, the Secretary was instructed to ask the component societies to contribute to the expenses of the Legislative Committee. In answer to this appeal, but eight societies saw fit to make a contribution, the total amount collected being \$383, and of this sum \$300 came from Cook county. Of this fund there yet remains in the hands of the Secretary \$185.25.

Your Secretary has attended the usual number of society meetings, a meeting of the Scientific Committee and all the meetings of the Council.

W. H. GILMORE, Secretary.

Moved and seconded that the report of the secretary be approved as read. Motion prevailed.

President Lillie: We will now listen to the report of the Chairman of the Council, Dr. Pence.

#### REPORT OF THE COUNCIL.

*Read by the Chairman, Dr. Clyde D. Pence.*

It is again my pleasure as well as my official duty to report to this House of Delegates the work of your Council during the past year, and in a general way to report the condition of the Society and of its official actions.

During the year it has held five business sessions, attending to the routine business of the Society. These meetings were held in Springfield in May, directly after the last session of the House of Delegates, in Chicago in June and October, in Champaign in January, and in Chicago in April.

When the Council met, immediately following the annual meeting in Springfield last May, for the purpose of organization, the following officers and committees were elected or appointed:

Chairman of the Council and editor of the JOURNAL, Clyde D. Pence.

Finance Committee, Drs. Arp, Windmueller and Gillespie.

Publication Committee, Drs. Center, Nelson and Cooley.

Advertising Committee, Drs. Burkhardt, Sibley and Nelson.

The official machinery of the Society has been rather more active this year than usual. It has reached out and somewhat widened its function. Each year brings new work to your various committees, and each year your officers and committees see new ways of serving the Society.

The thanks of the Society are due your president, Doctor Lillie, for the hard service and interest he has given the Society. He has made an effort to bring about a better preventive medicine. He has talked it and urged it wherever opportunity presented. Aside from the usual duties of his office, Dr. Lillie gave the time and energy to attend a committee meeting at Washington in the interest of medical "preparedness" relative to the Volunteer Army Medical Service. This committee met at Washington at the request of President Wilson. Dr. Lillie had the honor of being elected secretary of this convention. He has also been active in the work of the Cancer Commission, a work in which this Society must soon take a more active part.

The work of the component societies during the year has in most instances been active, some of them doing excellent work. Unfortunately, however, some few county societies have fallen behind. During the year more work has been done by the medical fraternities toward the prevention of tuberculosis than ever before. This County Medical Society is frequently behind the work, pushing it.

#### LEGISLATIVE COMMITTEE.

This committee has done, not only much more work this year, but more effective work. If this committee maintains its activity during the next year as it has during the past year, we will then be in position to impress the next legislature with the needs of the Society, and of health conservation throughout the state. We predict that during the next session of the legislature this work will bear fruit.

#### MEDICO-LEGAL COMMITTEE.

The activities of your Medico-Legal Committee have covered a larger field this year than is usual. The committee has had several meetings during the year, having met twice with the Council. Besides the defending of malpractice suits, it has made a partial survey of indemnity insurance, and the chairman of that committee, Dr. King, will make a report to this body today.

It is sufficient here to say that this is pioneer work so far as medical societies are concerned, and it has been difficult for your committee to arrive at conclusions.

The same discouraging arguments are met with here that faced the committee fifteen years ago, when co-operative medical defense was proposed to the House of Delegates of the Illinois State Medical Society, namely, that co-operation will not succeed; that the whole plan would be a failure. The plan of co-operative medical defense which was proposed and opposed fifteen years ago is today the most popular feature of this medical association.

Aside from this phase of the work, your committee has an ever-increasing volume of malpractice defense to care for, and is doing excellent work.

Under a more business-like regime, the finances of the committee have been well conserved, and no increased financial burden has arisen.

PUBLIC POLICY COMMITTEE.

Last year your public policy committee inaugurated a new feature in the way of a public health Sunday. It was so popular last year that this year there was a request for it again. This is another means of educating the public toward a better preventive medicine.

THE JOURNAL.

We had hopes that this year we might make a more flattering report for the JOURNAL than that of last year. In this we are somewhat disappointed. The only income the JOURNAL has is from the advertising, and during the last year our advertising has fallen off slightly. There are several factors responsible for this, the two greater I will mention. The European war has made a light business for most drug importers, and many of the foreign products cannot be had in quantity sufficient to warrant their advertising. The other factor which I have in mind is the members themselves. The advertisers want to hear from our subscribers, and if they never hear anything about the JOURNAL from the members, they get discouraged.

Since our last annual meeting the JOURNAL has cost for publication for each issue as follows:

June, 1915.....	\$517.76	
July, 1915.....	527.60	
August, 1915.....	487.36	
September, 1915.....	485.72	
October, 1915.....	486.95	
November, 1915.....	488.95	
December, 1915.....	499.73	
January, 1916.....	495.88	
February, 1916.....	492.98	
March, 1916.....	496.39	
April, 1916.....	493.82	
May, 1916.....	511.48	\$5,984.82

To this we add:		
Editor's salary.....	\$900.00	
Managing editor's salary.....	720.00	
Postage.....	800.00	2,765.62
Commissions on advertising.....	345.62	

	\$8,750.44	
Total receipts from JOURNAL.....	7,182.96	
Balance in bank from last year.....	5.34	
		\$7,188.30

This does not include outside subscriptions.

DISBURSEMENTS

To Treasurer Markley.....	\$6,800.00	
Commissions on advertising.....	345.62	
Commissions on collections.....	5.00	
	\$7,150.62	
Balance in bank.....	37.68	7,188.30
Total receipts.....		\$7,188.30
Bills receivable (notes).....		60.00
Uncollected accounts for the year.....		1,005.01

These accounts are the running accounts, and are all absolutely good.

Cost of producing THE JOURNAL.....	8,750.44	
Receipts, bills receivable and running accounts....	8,253.31	
Loss.....		\$ 497.13
Accounts uncollected and doubtful.....		588.37

TREASURER.

The treasurer's report shows the finances of the Society in better condition than for several years. In fact it is the first time in three years that there has been a balance in the general fund.

MEMBERSHIP.

The report on membership is not quite so good as we might wish. The membership numerically speaking has not much changed. The secretary's list shows that about the average number of new members have been added. Quite a number of members have not paid dues, but undoubtedly many of these will soon be paid in full. Another class of members who joined under an urgent solicitation have not had sufficient interest to maintain their standing. Taken in all the Society is in good condition, its activities growing, its field broadening, with prospects good for a still greater Society.

Respectfully submitted,

Clyde D. Pence,  
Chairman of the Council.

Moved and seconded that report as read by Dr. Pence be approved as read. Motion prevailed.

President Lillie: The report of the treasurer, Dr. Markley, is the next in order.

REPORT OF THE TREASURER

GENERAL FUND

From May 15, 1915, to May 15, 1916

Received from W. H. Gilmore.....	\$12,574.95
Received from C. D. Pence, ILLINOIS MEDICAL JOURNAL.....	6,800.00
Total receipts.....	\$19,374.95
May 15, 1915—Overdrawn.....	2,114.84
	\$17,260.11
Vouchers paid.....	15,416.41
May 15, 1916—Balance.....	\$ 1,843.70

MEDICO-LEGAL DEFENSE FUND.

From May 15, 1915, to May 15, 1916

Balance, May 15, 1915.....	\$11,365.62
Received of W. H. Gilmore.....	7,950.00
Total.....	\$19,315.62
Vouchers paid.....	4,668.65
May 15, 1916—Balance.....	\$14,646.97

Dr. Markley: We commenced this year with \$2,114.84 worse off than nothing. This is the first report that I have made since I held this office that was not in red ink. (Applause.)

Moved and seconded that the report of the treasurer be approved as read. Motion prevailed.

President Lillie: We will now listen to the reports of the councilors. Dr. Windmueller of the First District.



## COUNCILORS' REPORT.

## FIRST DISTRICT.

Dr. Windmueller: *Mr. President and House of Delegates:* I beg to report that in point of numbers the First District shows a deficit, as there were dropped for nonpayment of dues thirty-one members and only sixteen members were added to the membership. However, we anticipate that by the end of the year a great many of those will be able to pay their dues and will be reinstated as active members.

I would suggest here that the state society have printed some form letters, such as forms used in business houses, for delinquents, and some follow-up letters, these to be given to the secretaries of the societies to be sent out to the members.

In the nine counties comprising the First District there is an active membership of three hundred and sixty-seven and there are approximately one hundred and ten desirable physicians in the territory who are not members. The meetings held during the year were most interesting, though many of them were poorly attended in spite of the efforts of the secretaries. I have been instrumental in our district in causing to be held some joint society meetings and they have always been a great success; they have brought out a greater attendance. Last December one was held at Rockford with an attendance of one hundred and eighty from Winnebago and adjoining counties. We held one at Freeport, and also had a large attendance. I also find that cuts down the council expense considerably.

President Lillie: We will now hear the report of District No. 2, E. S. Gillespie, Wenona.

## SECOND DISTRICT.

Your Councilor for the Second District wishes to report that the year just past has been a successful one in many ways, and has been decidedly better than the average year in the quality of papers, the scientific discussion, attendance and in the interest shown in regular meetings.

I want to ask the component societies of the Second District and other districts to choose your secretaries with great care; for as you all well know, the secretary must carry the burden of the society. He must arrange the programs, get the members to come, collect the dues, and keep the records. A large order, you will say, and so it is. The right sort of secretary, however, can do this if he will just study the situation, and find out what the members want. It may be scientific meetings, it may be banquets, it may be automobile trips, picnics or anything else. It makes no difference so you get the members together and create an interest, then you will have no trouble in getting excellent scientific papers, and intensely interesting meetings, that are well attended.

Two difficult situations arose in the Second District the past year, and both were traceable to the secretary, Dr. Gilmore would classify them as poor secretaries. Good, fair and poor is the way, he puts it.

One of these difficulties came in January, this year. Dr. Gilmore wrote that Lee County was in bad shape. This letter arrived on the tenth. I went to Lee County on the eleventh, and on the twelfth of January, enough money was sent to Dr. Gilmore to reinstate the whole society.

The other was just last week in Kendall County. The call for help was written May eighth to the State Secretary, and on the tenth I went to Kendall County, reorganized the society, elected officers, and on the twelfth Dr. Gilmore received the official announcement from the newly elected secretary of the officers elected, and money enough to reinstate the whole society.

Five of the nine medical societies in the Second District had a Better Baby's Contest or a Child Welfare Meeting or a Baby Conference. All were successful and interesting meetings. In Marshall-Putnam County Medical Society, of which I am secretary, we combined a Child's Welfare Campaign, A Baby Conference, and the semi-annual meeting of the Marshall-Putnam County Medical Society. Every one of these meetings were well attended by the laity and profession, and we examined and scored seventy-five babies between the ages of six months and five years.

More was accomplished in this three days of meetings in educating the laity along lines of sex hygiene, better and healthier babies, the welfare of our children, and better sanitation and ventilation than has been accomplished by the public schools and churches of our town in the past five years. Gentlemen, I didn't make that statement in a boastful spirit, but because it is the absolute truth, and shows that this is one excellent way to educate the public in these very important questions. I sincerely hope that the various county societies that have had one of these meetings will complete a permanent organization, arrange a meeting once a year and boost this important movement.

I notice that the Program Committee has placed Dr. Drake on the program for a paper on "Medical Legislation, Recent and Contemplated." I sincerely hope every man here will be present when that paper is read. Then there will be a report from the Legislative Committee that will probably outline a plan of campaign.

I would, however, like to say a few words about legislative work, which I believe to be one of the most important duties of the Illinois State Medical Society.

You know, I live in a farming community. I know something of the way farmers do things. They are the fellows that know how to get what they want. When a bunch of farmers go to Springfield to get some legislation they want, the committee will drop everything else and give them what they are asking for. If you don't believe that statement, tell me why the farmers are exempt from the compensation law; if you don't believe that the farmers get what they want, tell me how it comes, that the farmers' children are exempt from the Child's Labor Law; if you don't believe that the farmers know how, explain why the State of Illinois paid them three or four millions dol-

lars for slaughtered cattle, and more than three-fourths of that four million must be paid by the taxpayer who has nothing to do with the farm.

Why are these things true? Because the farmers don't neglect their opportunities. Doctors do neglect their opportunities. They are careless. Often, they are too much afraid of ruining the dignity of the profession.

I want to say to you that unless we wake up and adopt some of the farmers' methods and protect ourselves, no one else will. Don't be afraid to mix in politics a little. Get out and work hard for the right kind of a man for the legislature, and buy a great big sledge hammer to use on the wrong man for the place. Lay aside your dignity long enough to go out and help elect the doctors that are on the ticket and urge others to get on the ticket. In short, study the farmers' methods and do as they do.

I want to urge each delegate to report to his respective county society that every member of the Illinois State Medical Society must do his share during the next nine months.

I have attended every meeting of the council during the past year, and have done all in my power to conserve the funds and promote the welfare of the state society.

A detailed report of the various counties in the Second District would be only a bore since the secretary has just finished a detailed report on the numerical and financial condition of all the component societies. I will, therefore, not tire you with such a report. I do, however, wish to say to the delegates present from the Second District, that I am ready and willing to furnish the material for a program to be present, or help in any way possible to maintain our present harmonious condition.

E. S. GILLESPIE,  
Councilor, Second District.

President Lillie: We will next listen to the report of Dr. C. D. Pence, Chicago, for the Third District.

#### THIRD DISTRICT.

The societies in the third district are, perhaps, in somewhat better condition than last year.

*Cook County.*—In Cook County the branch societies are in a flourishing condition. All of them are gradually increasing the attendance at their meetings. The attendance at the general meeting of the parent society was larger during this year than ever before in the history of the society. Many of the meetings have had a very large attendance, while at the meeting last week it was estimated that seven hundred attended. The membership is also larger than ever, being now 2,705.

I have no estimate of the non-members.

*Lake County.*—This society has fifty-one members in good standing. I have not the number of non-members. I think there are very few eligible physicians in this county who are not members, perhaps three or

four. It is one of the active societies, and is doing good work.

*Kankakee County.*—Kankakee County Society numbers fifty-one members. There are thirteen physicians in the county who are not members. This number is too large and should be reduced. I have not attended their meetings, but am informed they have good ones with a fair attendance.

*Will County.*—Will County Society has fifty-three members, and twenty-eight physicians in the county who are not members. This number of non-members is entirely too large, and we hope to see it reduced during the next year. Your Councilor has not attended any of the meetings of this society this year, but hopes to soon. The society is reported to me as in a flourishing condition.

President Lillie: Next will be the report of Dr. Charles D. Center, of Quincy, for the Sixth District.

#### SIXTH DISTRICT.

Dr. Center: *Mr. President*, the Sixth District comprises eleven counties; there is a medical society in each county. So far as I know, there has not been a wrangle in any one of those eleven counties this past year. The General Secretary has not sent out an S. O. S. call to me to hurry to any of those counties during the year. When you realize that within that district, outside of my own home county, there is but one county that I can visit and get back again the same day, you may perhaps see some excuse when I say to you that during the year I have visited but two of the eleven counties. Four of the eleven counties invited me to visit them. Two I visited; two, it was impossible to visit. As a whole, the secretaries of the district have not furnished me with the membership numbers, so I cannot tell you tonight whether or not we have gained in membership or fallen off in membership, but knowing that Secretary Gilmore is going to say something if we fall off very greatly anywhere I take it for granted we have at least held our own.

President Lillie: We will next listen to the report of Dr. Charles S. Nelson, of Springfield, for the Fifth District:

#### FIFTH DISTRICT.

Dr. Nelson: *Mr. President and Members of the House of Delegates:* My report is also very brief.

Your Councilor from the Fifth District, comprising the counties of Menard, Sangamon, McLean, Logan, Tazewell, Iroquois, Mason, DeWitt and Ford, does not have much of a report to make with respect to either progression or retrogression. Am glad to say, however, that all the counties in the Fifth District seem to be alive to the necessities of organization, and if they have not gained many in membership, I trust they have made up for it in enthusiasm. But as there are only a very few eligible physicians in the district, who are not members of the society, a substantial growth in membership can not be expected.



I have been in every county in my district during the past year, but not always in my official capacity as Councilor, or at the expense of the State Society, but I have always taken advantage of such visits by trying to infuse life and interest in their county societies.

I have received a personal report from all the counties in my district with the exception of Logan, and their reports compared with last year, are very satisfactory.

Respectfully submitted,

C. S. NELSON,  
Councilor, Fifth District.

President Lillie: We will now listen to the report of Dr. C. F. Burkhardt, of Effingham, Council Report for the Seventh District.

#### SEVENTH DISTRICT.

Dr. Burkhardt: *Mr. Chairman and Members of the House of Delegates:* District Seven is composed of twelve counties; it is the best district in the state, and the reason it is the best district in the state is owing to the fact that it is composed virtually of "Egypt," south central Illinois. I have not very much of a report to make owing to the fact that I have been unable to obtain proper data to make a report from. I have been favored this year with a report from one county in the district, and as Councilor of the Seventh District I beg leave to submit the following brief report for the current year:

I have attended every meeting of the Council and have endeavored to the best of my ability to conserve the funds of the state society so far as was consistent with a progressive policy. During the year I have visited two counties, one being Bond and the other Christian County. Both of these were made upon request of the officers of those counties. I have received no other appeal or call for my services, and I felt that it is a pretty good rule for a Councilor, and he might just as well save the state society's money and stay at home unless he is called for and his services are needed. I am glad to respond to a call at any time when the county needs it.

I think in a general way that the condition of the society of the Seventh District is in as good shape as it was last year.

In conclusion, I will state that I will be pleased during the present or coming year to answer any call that may come to me from any county in my district and will be glad to respond to that call and give all the aid possible. I believe that is all I have to report, *Mr. Chairman.*

President Lillie: We will now listen to the report of Dr. E. B. Coolley, of Danville, for the Eighth District.

#### EIGHTH DISTRICT.

*Mr. President and Gentlemen of the House of Delegates:*

It is with no little regret that your Councilor from the Eighth District reports the loss of both members

and interest, in certain localities the past year. This does not apply to the Counties of Clark, Coles, Champaign, Crawford, Douglas, Edgar, Jasper, Lawrence or Vermilion, as these counties have maintained thoroughly efficient organizations and have lost no ground.

Those delinquencies which appear annually must not be considered as jeopardizing the fate of the societies in which they occur, but an expression of that procrastination of which some individuals can only be cured by a damage suit in their vicinity.

The time will speedily arrive when the laggard will realize that the door of the State Society is closed to him the moment he is attacked outside the fold.

There can be no doubt that the County Medical Society, like any other body, gathers momentum with size. All the more credit therefore is due to the small society, which by sheer force holds on to its organization and fulfills its purpose.

Without a suggestion of comparison I wish to call attention to the benefits that must accrue to the profession as a result of an efficient organization, stoutly maintained.

Champaign County is the second in size in the Eighth District. There are in Champaign County 104 physicians, the most of whom are members of the County Society in good standing and but three are ineligible to membership according to the report of the secretary, now in my hands.

This I consider one of the banner counties of the state in the matter of medical organization and I fully expect next year's report to show every eligible physician in Champaign County a member of the County Society and this is not too much to expect. With the three ineligibles we are not concerned.

While rejoicing in the prosperity of the profession of the Eighth District, it is only proper to note that the hand of time has again fallen heavily upon us. Not only have we lost an unusual number—six—but we have seen the young man just from college, the physician ripe in years, and his vigor failing, but we have seen the flower of our local profession go at noon. Many faces will show disappointment today at the absence of a face you have never missed from this Society since he joined our ranks, until 1916, Dr. Benjamin Gleeson.

Vermilion County, notwithstanding these death losses, has again grown in membership.

Respectfully submitted,

E. B. COOLLEY.

President Lillie: We will now listen to the report of Dr. Sibley, of Carmi, Councilor for the Ninth District.

#### NINTH DISTRICT

Dr. Sibley: *Mr. Chairman:* I think when they divided the state into districts they made eight and then they threw in twenty-three counties known as "Egypt," and they called that the Ninth District, and they gave it to the littlest fellow there was to look after it, and probably the poorest. We have in my district, Hardin County, with two members, and St. Clair, with over a

hundred, and during the last year I think the district has done as well as it usually does. There is one county which did not for a while have an organization, but it has since been organized. During the year I have personally only visited three of these counties, but Dr. Little has visited, in the name of the society, ten different meetings, so the district is looked after fairly well.

Your Councilor has attended all of the meetings of the Council during the year. I think I can say that this district ought to be divided, or ought to have a little help in the way of Assistant Councilor in the Ninth District.

Moved and seconded that the reports of the councilors be received and placed on file. Motion prevailed.

President Lillie: The next report will be that of the committee on Medical Legislation, Dr. Eberhardt, chairman.

#### REPORT OF COMMITTEE ON MEDICAL LEGISLATION.

##### RECOMMENDATIONS FOR LEGISLATION—AND RESULTS.

In the Annual Report to the Governor, made by the State Board of Health in December (see *Health News*, January, 1915, p. 11), certain recommendations were made as to needed and desirable legislation. The board fully recognized the defects of many of the existing Illinois health laws and the recommendations made were in line with a definite constructive program. The needs of sound health laws were fully appreciated by the Governor and by the General Assembly and the results of that realization may be seen at a glance in the following parallel columns:

RECOMMENDED IN MESSAGE TO THE GOVERNOR	ACTION BY THE GENERAL AS- SEMBLY.
---	--------------------------------------

- |   |   |
|---|---|
| 1. Consolidation of all agencies having to do with public health.                                 | 1. Bill failed of passage.  |
| 2. Divisions of State into sanitary districts, each with its own full-time health officer.        | 2. Provision made for four sanitary districts with health officers.                   |
| 3. Establishment of Bureau of Sanitary Engineering.   | 3. Passed.  |
| 4. Provision for State-wide campaign against smallpox and typhoid fever.                          | 4. Facilities to meet these diseases greatly improved by new measures passed.         |
| 5. Creation of a division of tuberculosis.  | 5. No bill introduced. Much important anti-tuberculosis legislation, however, passed. |
| 6. County tuberculosis sanitarium law.  | 6. Passed.  |
| 7. Provision for investigation of infant morbidity and mortality, trachoma, hookworm and malaria. | 7. No special bill introduced.  |

8. Provision for free smallpox vaccine.

9. Extension of dairy inspection service.

10. Extension of educational activities, including traveling health exhibit.

11. Satisfactory Birth and Death Registration Act.

12. Provision for improved registration and identification in connection with registration of vital statistics.

13. Amendment of the Medical Practice Act to give the board jurisdiction over all certificates issued to physicians.

14. Law giving State Board of Health control over water supplies, etc.

15. Law requiring counties to set aside funds for public health purposes.

16. Power to establish branch laboratories for diagnostic purposes in north and south sections of the State.

17. Provision for schools for local health officers.

8. Made possible through appropriation.

9. Appropriation passed for this purpose.

10. No special bill introduced. Education, however, can be extended.

11. Excellent law passed.

12. Made possible by passage of Birth and Death Law and appropriations for modern office methods and tabulating machines.

13. Passed.

14. No special bill introduced. The supervision of water supplies, under general powers, however, will be more satisfactory through the creation of the Bureau of Sanitary Engineering.

15. No bill introduced.

16. Provided for in appropriations.

17. Made possible by creation of sanitary districts and certain appropriations.

Moved and seconded that the report be received and placed on pile. Motion prevailed.

President Lillie: We will next listen to the report of the committee on Public Policy, by Dr. A. M. Harvey, chairman.

#### REPORT OF COMMITTEE ON PUBLIC POLICY.

Dr. Harvey: *Mr. President and Members of the House of Delegates:* Two years ago your committee on Public Policy began to wonder why they existed. The duty of this committee was so vague and so general in the by-laws that we came to the conclusion that there wasn't much use of selecting a public policy. We got together, however, and thought we would inaugurate a "Health Sunday," based simply on the outlines of the "Health Sunday" of the A. M. A. The meetings were successful at Springfield, and a number of the members of the society requested that the meetings be repeated this year at Champaign. We



took the matter up with the Ministerial Union, and they co-operated with us. Of course the members of the society at large know very little about these meetings, because they are held the Sunday before the state meeting. It takes considerable work to arrange these meetings. The doctors who speak come at their own expense, at considerable sacrifice, and to show what these speakers are doing I will read from last evening's Champaign paper. "Health Sunday as observed yesterday by visiting doctors here to attend the convention of the Illinois State Medical Society which begins tomorrow morning was a decided success. Prominent physicians and surgeons spoke and all of the talks proved interesting and instructive. The doctors mentioned the great progress being made in the scientific treatment of private and public hygienic problems and of the splendid results brought about by providing better sanitation and public health conditions. Public health conditions were declared to be sacred institutions which should be watched after carefully." In commenting upon some of the speakers: "At the conclusion of the address the congregation so forgot its Sunday morning decorum as to cheer heartily." Another gentleman it speaks of also "scored a big hit." And Dr. Frank made such a favorable impression that he has been asked to repeat his lecture. They have given over a page abstract of the addresses.

In conclusion, I wish in behalf of the committee to thank the doctors who came here at considerable sacrifice and took part in this program, and also the Chairman of the Local Arrangement Committee, Dr. C. B. Johnson, without whose able assistance I am sure that the meeting would not have been the success it was.

Moved and seconded that the report on Public Policy be accepted and placed on file. Motion prevailed.

President Lillie: We will hear the report of the Medico-Legal Committee, by Dr. C. B. King, chairman.

#### REPORT OF MEDICO-LEGAL COMMITTEE.

Dr. King: I am not going to read all this that I brought with me.

*Mr. Chairman and Delegates to the Illinois State Medical Society:* Your committee begs leave to report that there is a slight increase in malpractice suits since the last report a year ago. Last year your committee reported handling seventy cases, with twenty-five cases finally disposed of, leaving forty-five cases pending. This year we can report disposing of the same number of cases, twenty-five. By that I mean they are permanently disposed of. We have still pending, however, forty-nine cases in various courts and two cases in the appellate court, making fifty-one cases pending at the present time that the committee are handling. Since the report last year thirty-one new cases have been filed, sixteen in Cook County and fifteen outside. There are also thirteen threatened

cases in which suit has not yet actually been started, six in Cook County, seven outside of Cook County.

There are two cases in the appellate court, one in the Third District, in which a verdict for the plaintiff is appealed from, and one in the Fourth District, in which judgment for the defendant is appealed from. These districts I mention are the appellate court divisions and not the Councilor districts. You will notice that in the past two years the cases are pretty evenly divided between the County of Cook and the rest of the state. Of the twenty-five cases disposed of in the last year we had nineteen dismissed for one cause or another. In two cases plaintiff took non-suit; in one case the insurance company paid a small sum, over our protest, to have the case dismissed. Three cases were tried, and a verdict given for the defendant. One case is still pending, the court having under consideration a motion for a new trial. In that case a verdict—look out now—for fourteen thousand five hundred was rendered by the jury after a four days trial. This one case is the only adverse verdict we have encountered throughout the past year. That is a case in which we will make a motion for a new trial, and it is still pending.

The committee wishes to call attention to the fact that more cases have been handled during the past year, and at an expense of at least thirteen hundred dollars less money than we spent the previous year. During the past year every case in the state has been thoroughly investigated and prepared, and in doing this we feel that money has been saved the society. In doing this thorough investigating several very bad appearing cases have been killed, and instead of enmity and doctor arraigned against doctor, a friendly feeling exists. In proof of that I wish to read a letter from one of the doctors who had a case and was very much worried about it:

"In behalf of Dr. Morgan and myself, I wish to express our appreciation and gratitude to the Medico-Legal Committee of the Illinois State Medical Society, in the successful management of our malpractice suit.

"The termination of this suit has been a very great victory against malpractice in Knox County." It might seem at first glance that considerable money was spent on some cases, but your committee feels that letters of appreciation such as the above are worth something to the future of the state society. Previous to the last year it was the policy to employ lawyers in whatever county a case was being tried to handle the case with a free hand. During the past year the general counsel has sent a special investigator and very close watch was kept on each and every case. As an instance of the investigation I would cite you the following from Monticello, Platt County:

In this case the attorney made six appearances in court, traveled from Monticello to Somerset, Kentucky, from Somerset twenty-three miles by buggy and eight miles on a mule, where a buggy could not go, to procure the sworn statement of two women. He had to leave his home at Monticello February 1, Monday evening, and reached home again on Saturday

morning, February 6. Six appearances in court, when the case was finally disposed of without trial, at an expense to the Illinois State Medical Society of fifty dollars.

The above is merely a sample of the work that your committee and the general counsel is doing.

In view of the fact that many of our members seem not to understand the limitations that have been placed upon the committee by the constitution and by-laws, it might be well for the House of Delegates to consider some of the special cases, which consideration need not necessarily prove a precedent, as in the future when its terms are better understood it may be proper to administer its terms more rigidly than at present.

The most agreeable thing that your committee has to report is the fact that there has been an increase in the Medico-Legal funds of last year of \$3,282.

Moved and seconded that the report of the Medico-Legal Committee be accepted and placed on file. Motion prevailed.

Dr. King: *Mr. Chairman:* I just want to supplement that report a little. That report does not include all malpractice cases that there are in the state, because the various protective companies have a number and the various casualty companies have a number also. I know of one attorney having nineteen cases at the present time that are not included in ours.

Moved and seconded that the Medico-Legal Committee be thanked for its excellent work during the past year. Motion prevailed.

President Lillie: The next report will be from the committee on Medical Education, by Dr. Frank Buckmaster, of Effingham, chairman.

## REPORT OF THE COMMITTEE ON MEDICAL EDUCATION.

*Gentlemen of the House of Delegates:*

Your Committee on Medical Education submits this brief report, acknowledging the courteous co-operation of the Secretary of the State Board of Health in furnishing data.

The medical education situation has greatly improved within the last year, largely to the credit of the State Board of Health. The following are the important developments of the last twelve months:

1. *Special Efforts to Enforce the Statutory Requirements of Preliminary Education.*—The Board now requires of medical colleges that the original documentary evidence of preliminary education be submitted to the Board for examination at the time the student matriculates. The strict enforcement of this rule has led to the correction of a serious abuse of the past, and has tended to marked improvement in the quality of the student body. With one single exception, all of the medical colleges of Illinois, and those located in surrounding states that contribute a material number of candidates to the Illinois examinations, have re-

sponded to the new requirement without protest. The single exception noted is, strange to say, one of the leading medical institutions of the state. Final action in this case may be looked for in the near future.

2. *Certificates of High School Equivalence.*—After conference with the State Superintendent of Instruction of Illinois the State Board of Health adopted and put in force a new and higher standard of examination for certificates of high school equivalence to admit matriculants to a medical college.

3. *"Other Practitioners" and Midwife Certificates.*—The standards for the examinations of these candidates have been very materially raised. By action of the Board candidates for Other Practitioner licenses will, on and after September 1, 1916, be required to write exactly the same examination as is given to physicians and surgeons, excepting, of course, in the following subjects: Materia Medica and Therapeutics, Obstetrics and Surgery. As a part of the examination, Other Practitioners will also be graded on education and training.

This is a radical departure from former requirements, and doubtless will do much to eliminate present abuses.

4. *Reciprocity.*—To prevent an abuse of the reciprocity evidence of two years of reputable practice in candidates for admission to this state through reciprocity evidence of two years of reputable practice in the state in which licensed. This is an increase of one year in resident practice.

The Board also announces its intention to seek legislation which will permit the extension of reciprocity licensure privilege to the older practitioners of the state.

This privilege is urgently needed from the standpoint of fairness and justice to all licensed physicians alike, as at present this privilege is limited to those licensed in Illinois since July 1, 1899, only by examination.

5. *Colleges Not in Good Standing.*—During the last year the National University of Arts and Sciences, Medical Department, St. Louis, Mo., was declared not in good standing with the Illinois State Board of Health.

6. *Examination in Foreign Languages.*—Within the year the State Board of Health has abandoned the former practice of permitting candidates taking examination in foreign languages to bring their own interpreters to the examination room for the purpose of translating the questions from the English into their own languages, and in lieu thereof has contracted with a reputable translation bureau to supply this service under the immediate direction of the Board. The new service corrects gross abuses of the past, and is available to candidates at a great saving in expense to themselves.

7. *Fraudulent Diplomas.*—Quite recently the State Board of Health has caused the indictment of four persons, three of them physicians, for fraudulent trafficking in medical college diplomas. Investigation of



these and similar frauds is still under way, and additional indictments are expected in the near future.

8. *Amendments to the Practice Act.*—In its recent utterances the State Board of Health announced its intention to seek an amendment to the Medical Practice Act, which will enable Illinois medical colleges to establish an internship year as the sixth year of the required medical course.

Your committee recommends that the Illinois State Medical Society through its officers and appropriate committees make early plans for co-operation with the State Board of Health to obtain from the next General Assembly this and other much needed changes in our Medical Practice Act.

9. *Jurisdiction of the Board.*—One of the most important pieces of legislation enacted by the General Assembly was an amendment to the Medical Practice Act restoring to the State Board of Health jurisdiction over the licenses issued to physicians prior to July 1, 1899. The Board now has jurisdiction over the licenses held by all practitioners, as it should have had always.

10. *Physicians Licensed.*—During the twelve months ending Dec. 31, 1915, a total of 530 candidates for physicians' and surgeons' licenses presented themselves before the Board. Of these, 15.66 per cent failed.

11. *Legal Department of the Board.*—Under the decision of the Supreme Court in the Fergus injunction suits, the Illinois State Board of Health has been deprived of its legal department, and at the present time the Board is tremendously handicapped in its effort to enforce the Medical Practice Act. Medical charlatans and fakers of all kinds are overrunning the state as a result of this development, and unless immediate relief is afforded, the people and the reputable profession will be seriously affected, and the reputation of the State badly besmirched.

Finally, your committee believes that it becomes the province of medical education not only to regulate and standardize under- and post-graduate instruction and training, but that it should likewise promote and supervise the much needed instruction of the public in matters of personal health and hygiene; also in sanitation and disease prevention in general.

Therefore, your committee suggests the organization, during the coming year, of an effective bureau of public speakers on these subjects available to, and working in harmony with, all County Medical Societies, which by their co-operation will have the immediate charge of this instruction in their own respective jurisdiction.

Thus will the medical profession more truly fulfill its highest mission, that of the prevention of diseases.

Respectfully submitted,

F. BUCKMASTER,  
MARTIN M. RITTER,  
A. M. CORWIN,

Committee on Medical Education.

Dr. Buckmaster: Now a great deal is being done by the profession in general and by individual members to promote matters of health, and the matter of the prevention of diseases. The three that require the most attention are cancer, tuberculosis and the

bubonic plague, and there is a great deal of other work to be done. The American Medical Association has done a great deal, and I believe much more in a general way than the state society; and it is a thing that people are becoming greatly interested in. Public health lectures are now becoming very common all over the state; a great many doctors are willing to respond and very able to give this much needed information. It is no trouble at all to arrange for this information to be given at public meetings, but it could be done in connection with the local profession. Now the reason we did not, as a committee, say we contemplated such an organization during the coming year is that we can not speak for the incoming members, but the committee suggests that this be carried out and that work be arranged through the county society and in harmony with the excellent work being done by the state board of health and various organizations in the state along these lines.

I thank you. (Applause.)

Moved and seconded that the report of the committee on Medical Education be received and placed on file. Motion prevailed.

President Lillie: Is there any further business to come before the House of Delegates?

Dr. Ensign: *Mr. President*, I have been requested to present a subject before this House of Delegates. It seems at a recent meeting, as I understand, of the McLean County Medical Society, there was a proposition set on foot to establish a physician's day in the state and to have a mutual outing at the State park at Starved Rock. This matter was given to me to be brought before the society so recently that I am not quite familiar enough with it to explain it entirely, but perhaps the representative of McLean County is present or possibly somebody from Livingston County who can further explain it. A number of letters have been sent to the officers of the La Salle County Medical Society to take up this matter, and I am desired by the secretary of the La Salle County Medical Society as well as others to present this matter to the House of Delegates. The object is to provide a physician's day at Starved Rock and the La Salle County Medical Society officers are ready to cooperate, I am informed and instructed to say, in this movement, and we would be very much pleased if a committee were named by this body to act with them and that their proceedings and the result of their conclusion could be spread on the pages of THE JOURNAL, so that all the members of the State Society may be made familiar with them.

I am informed also that the officers of the State Society have ascertained that the manage-

ment of the park will set a day apart on Wednesday, the twelfth day of July, for the medical profession of Illinois, and it is desired that the medical profession will come as they can and as far as they can. It is true that it is unfortunate that the park is not more centrally situated, but I want to say for La Salle County that they are not yet prepared to suffer Starved Rock and Deer Park to be moved further south in the state and that they would be glad to welcome you and make such arrangements for such a meeting as they could.

Mr. Chairman, I move that a committee be appointed.

President Lillie: Well, it would appear to me that perhaps the moving of the park further south would not appeal to the membership of this society quite as much as it would be to change the name to something other than "Starved" if they are to go there for a day's outing. At the same time we would like to hear from the members of the counties most interested. Dr. Cantrell of Bloomington.

Dr. Cantrell: *Mr. President*, We who are in the central part of the state feel highly favored. We were invited down to the picnic on the Black farm near Jacksonville last year and are rather hoping for an invitation this year. - The picnic was such a wonderful success last year that we thought it would be mighty nice for those in the northern part of the state to have something similar and it would give us in the central part of the state, who have to drive one hundred miles to get to them, a chance to get to two picnics; that would kind of equalize the matter, you know, as to length of drive.

But I did not rise to speak at length on this subject, but the President-elect of McLean County is the father of this thought and I wish to ask the unanimous consent of this body that Dr. E. P. Sloan, who is president, may address you on this subject.

Moved and seconded that Dr. Sloan be granted the privilege of the floor of the house. Motion prevailed.

President Lillie: Dr. Sloan, will you come forward where the reporter can hear what you have to say?

Dr. Sloan: *Mr. President and Members of the House of Delegates*: I consider this a compliment to be asked to speak to you, and I think, perhaps, all the physicians in the northern part

of the state know Starved Rock and the roads to Starved Rock. Starved Rock is half-way between Bloomington and Chicago; it is the prettiest drive I know of, especially the Fox River trail is beautiful. Deer Park is near Starved Rock and it is certainly the prettiest piece of scenery in the State of Illinois, and it is the only place in the State of Illinois that is worth going to, just to see the scenery. Starved Rock is about seventy miles from Peoria, perhaps a little farther from Peoria; sixty-nine miles from Bloomington. I think that if we had a doctors' Sunday at Starved Rock that we would get a lot of the Chicago men down. I like to meet the Chicago physicians on Sunday. My idea was just for an automobile trip to Starved Rock, and if we could get a little free advertisement in *THE JOURNAL* that we could all meet each other as well as see Starved Rock and Deer Park. But some of them objected to Sunday and they say that the hotel people object to having the doctors there on that day, because their capacity is usually taken up with those that are there anyhow. Now I am glad to go at any time from Bloomington; it is only a nice little trip up to Starved Rock. If the doctors from the southern part of the state want to go to Starved Rock, if they will come up to Bloomington we will take care of them over night; we will take care of them if they will come back. It makes a very nice trip if you are going to make an automobile trip to Chicago; you can go up to Starved Rock and go from there on up to Chicago. Those of you who have not been there will be greatly surprised at the beauties of Starved Rock.

Dr. Hoffman: I move that a committee be appointed, including the Councilor from that district, and that they present this in concrete form before us on Thursday. Motion seconded.

A Voice: Mr. Chairman, I would like to ask Mr. Ensign if Starved Rock is dry.

Dr. Ensign: I hardly think it is entirely dry. I think there is all the water you want to drink.

Dr. O'Byrne: I move that the chair appoint a committee of five to take this matter under advisement:

President Lillie: A motion to that effect is before the house.

Dr. O'Byrne: I offer as an amendment that a committee of five be appointed to take the matter under advisement, and, if feasible, arrange for the outing and invite the physicians of the state.



Dr. Hoffman: I will accept the amendment.

Motion seconded as amended. Motion prevailed.

Dr. O'Byrne: I move that when we adjourn we adjourn to meet Thursday morning at 8:30. Motion seconded.

Motion to adjourn prevailed and the House of Delegates adjourned to meet at 8:30 o'clock a. m. Thursday, May 18, 1916.

*Thursday, May 18, 1916, 8:30 A. M.*

The House of Delegates met pursuant to adjournment.

Meeting called to order by the president, Dr. Charles W. Lillie, of East St. Louis.

Minutes of the previous meeting read by the secretary, Dr. W. H. Gilmore, and approved.

The President: The next order of business is the election of officers.

Dr. Coolley: *Mr. President*, owing to a matter over which I have no control, I wish to resign as a member of the Council.

The President: The resignation of Dr. Coolley will be accepted. The first office to be filled is that of President-elect.

#### ELECTION OF OFFICERS.

The following officers were elected:

Dr. Elmer B. Coolley, Danville, president-elect.

Dr. S. Newcomb, Champaign, first vice-president.

Dr. Robert A. McClelland, Yorkville, second vice-president.

Dr. Andrew J. Markley, Belvidere, treasurer.

Dr. W. H. Gilmore, Mt. Vernon, secretary.

#### COUNCIL.

Dr. A. H. Arp, Moline, Fourth District.

Dr. C. S. Nelson, Springfield, Fifth District.

Dr. C. F. Burkhardt, Effingham, Seventh District.

Dr. C. B. Price, of Robinson, Eighth District (to fill vacancy created by resignation of Dr. Cooley, for unexpired term).

#### SIX DELEGATES TO AMERICAN MEDICAL ASSOCIATION.

Dr. T. O. Freeman, Mattoon.

Dr. C. W. Little, East St. Louis.

Dr. Andrew M. Harvey, Chicago.

Dr. Robert S. Denny, Aurora.

Dr. Hugh C. McKechnie, Chicago.

Dr. J. C. Krafft, Chicago.

#### ALTERNATES.

Dr. Henry Lewis, Chicago.

Dr. Sibley, Carmi.

Dr. Hugh Betts.

Dr. D. R. McMartin.

Dr. A. L. Mann.

Dr. Chapman.

#### THREE MEMBERS—LEGISLATIVE COMMITTEE.

Dr. N. M. Eberhardt, Chicago, chairman.

Dr. D. W. Deal, Springfield.

Dr. Sloan, Bloomington.

#### THREE MEMBERS—PUBLIC POLICY COMMITTEE.

Dr. H. N. Rafferty, Robinson, chairman.

Dr. Sadie Adair, Chicago.

Dr. Poling, Freeport.

#### TWO MEMBERS MEDICO-LEGAL COMMITTEE—TO SERVE THREE YEARS.

Dr. D. R. MacMartin, Chicago.

Dr. Andy Hall, Mt. Vernon.

#### ONE MEMBER—MEDICAL EDUCATIONAL COMMITTEE.

Dr. Frank Buckmaster, Effingham.

Moved and seconded that the per capita tax for the ensuing year, to cover all funds, including Medico-Legal Committee, be fixed at \$2.50. Motion prevailed.

The President: The next order of business is the fixing of the place of our next annual meeting.

Dr. Marcy: I am instructed by the City Medical Society of Peoria to give this society a cordial invitation to hold their next meeting in Peoria, Illinois.

The President: Peoria has been placed in nomination.

Voice: How many hotels have they in Peoria?

Dr. Cantrell: I extend the invitation of McLean County Society to hold the next meeting at Bloomington.

I have addressed you on this subject previous to this and it seems customary for doctors to evaporate. I have a man here from Bloomington who I do not think is any better than the ordinary man, but he simply will not wilt.

I would like to ask the unanimous consent of the House of Delegates to allow Mr. Hudson to take the floor.

Moved and seconded that Mr. Hudson be given the floor for five minutes. Motion prevailed.

Mr. Hudson: *Mr. Chairman*, I did not get Dr. Cantrell's salutary remark; I was busy talking with Dr. Sloan, but I presume he spoke something about my national reputation for truth and veracity. I have been called "George" all my life.

I want to thank you for your courtesy in allowing me to address you. I represent the Commercial Club of Bloomington, an organization of upwards of 600 members, and it is the best little city of its class in the world. You give us time and we will prove it. That is number one.

Gentlemen, I desire—Ladies and Gentlemen—pardon me—I desire to call your particular attention to the geographical location of Bloomington. We are situated, as you all know, just about the center of the great State of Illinois; our railroads are diverging in fourteen different directions. It is possible to get into Bloomington from any county in the state with but one change of cars, and you can get into it from more than fifty per cent. of the counties without any change of cars.

We have plenty of hotel accommodations, good hall accommodations, and most anything that you may want within reason, and on behalf of the Commercial Club of Bloomington and the citizens in general I extend to you a most cordial invitation to come there next year for your annual meeting, and I assure you that we will do everything within our power to make your meeting a most pleasant and profitable one. I hope that you will come to Bloomington next year.

If there are any questions you want to ask about Bloomington, as to hotel accommodations, or anything else, I would be most happy to answer them.

Dr. O'Byrne (Chicago): On behalf of Cook County and Chicago I wish to extend the invitations to the House of Delegates and the State Medical Society to meet in Chicago next year. Of course, in some things we can compete with Bloomington. You can come into Chicago from any point in the State without change of cars. I am not certain how you get out. Sincerely, we offer you our hospitality to come to Chicago, and we would be glad to entertain you as best we know how. (Applause.)

The President: Chicago, Bloomington and Peoria are the places from which we have invita-

tions. I appoint Henry Ellis, Dr. Wetstein and Dr. Windmueller tellers.

Ballot was taken.

The Secretary: The ballot shows the following result: Peoria received 6 votes; Bloomington, 56; Chicago, 3.

The President: Bloomington will, therefore, be the next meeting place. (Applause.)

The President: New business is the next in order.

Dr. Bell (Decatur): *Mr. Chairman*, I would like to talk to the gentlemen about medical defense business. Dr. Anderson of Macon County had a damage suit, and I understand the rule is if a man has a damage suit against him he must notify the Medical Defense Committee immediately. And Dr. Anderson did not do that technically. The committee has failed to reimburse him for his expenses.

The facts in the case are that he was served with a summons the 31st of December. The case was called for the 10th of January, which is eleven days from the time he was served with the papers. He was served on Friday and he was busy Saturday, and the next day was Sunday, and on Monday he went to the local secretary and asked him to notify the Medical Defense Committee, and he thought he had. Three days before the case was called, which was the 7th of January, he went back to the local secretary and found out that the secretary had not done anything about it.

A Voice: Mr. Chairman, point of privilege. Has this matter gone before the regular committee, Medico-Legal?

A Voice: Yes.

Dr. Bell (continuing): Dr. Anderson had not heard anything from the Medical Defense Committee and he was afraid that he would lose his case of \$5,000, which he could not very well afford to do, so he went and hired a lawyer whom he knew himself, incidentally the same lawyer that the Medical Defense Committee was hiring. Well, on the 7th, that was eight days after the suit was filed, Anderson found out that our local secretary had not done anything about it, so he went to the new secretary and he took it up with Dr. Gilmore, and I believe Dr. Gilmore notified the committee. But by that time it was after the time for the trial.

As far as Dr. Anderson knew he had notified the committee, because he had notified their rep-



representative, the local secretary. Dr. Anderson's expenses have mounted up to \$350.00.

It seems to me that the defense fund is hardly a money-making business. It is to help our members out of trouble when they get in, and I wish to make a motion that the House of Delegates order the Medical Defense Committee to pay that bill of \$350.00.

Motion seconded.

Dr. King: There are always two sides to every question. I would like to make an impartial statement of the position of the Medico-Legal Committee in this particular case.

I think that the facts materially are as presented by Dr. Bell. The Medico-Legal Committee only a year ago had put in the Constitution and By-Laws a clause to take care of just such cases as have come up at the present time, namely, the minute a doctor is sued, stopping the practice of throwing a hysterical fit and hiring two or three firms of lawyers to defend him. There is no question but the lawyers that were employed in this case are undoubtedly the best for that particular work in Decatur; the committee believe that they are, because they have employed them since in a similar case.

The first that the committee knew we had a case in Decatur was within a day or two of trial; I don't know but it was right up to the very day of the trial; it was very close, at least.

I took the matter up immediately with our general counsel and was informed by him that the attorneys in Decatur had written to him previous to our information on the case, asking him for briefs in a certain mal-practice case, stating that they had a case in Decatur and they wanted to prepare for the case. Then we discovered that it was our case. I called a meeting of the two local members of the committee, Dr. Krohn and Dr. MacMartin. By the time we got to that meeting the next day we got word that the attorneys there had had the case postponed.

Now, I am not going to question a lawyer getting all the money he can for a case. In this particular case there is a bill from two firms of lawyers. Dr. Anderson had a friend who was a lawyer who takes care of his work and he first went to him, telling him that he had a suit. He said: "You have always been my lawyer, but I don't want you to handle this: I want to have another firm take care of this." Now, he did not go to the lawyers in the first place that were

to appear in court, he went to another firm; there were two firms involved.

At the time of the meeting of the committee we proposed,—at least I think I proposed to the other members of the committee,—that we assume the expense of the case from the time we were notified. As a matter of fact, there was not much of any expense after that, because the case never came to trial.

I say this committee is impartial. We refused to O. K. a bill for \$350.00 for which we feel sure the attorneys would have done the same work for us for at most \$100.00. Of course, we have since employed the same firm of attorneys for \$50.00 per day. There was no time spent in court further than going in and having the case dismissed. They did spend some time in working up the case, and we feel that the work which they did was worth about \$100.00 to us,—not to exceed that.

There is another trouble that they seem to have gotten into in this county, the fact that none of the doctors, so far as I am able to learn, have received one of the official receipts for dues. I do not know where the slip is. The secretary of the State Society insists that he sent them. Their present secretary there says he did not receive any, or has not up to the present time. The present secretary, Dr. Gilmore, tells me he was not in office when those blanks were sent out last September, he being elected in December—was it, Dr. Bell?

Now, the difficulty seems to be right in that one county. The committee is impartial. We simply were following the Constitution and By-Laws. We did not feel that we had any right whatever to O. K. a bill for \$350.00 when the By-Laws specifically stated that we were to O. K. no bills for payment for which we did not contract.

A Voice: What is your recommendation?

Dr. King: We will leave it up to the House of Delegates. We will not make a recommendation. We state the facts.

Dr. Bell: I appreciate Dr. King's stand there. Of course, they are a committee who are dictated to by the House of Delegates. They have their set rules to go by, from which they cannot deviate, but it seems to me that this whole thing, this medical defense fund, is not exactly to be conducted on business plans.

A Voice: Sure.

Dr. Bell (continuing): It seems to me it is for the benefit of the members when they get in trouble. None of us know when we are likely to have an accident happen. This was very new to us in Decatur. We had not received the regular receipt blanks on which it says that if a man is sued he must promptly notify the committee. I don't suppose there are three men in Decatur that know that now,—say five,—simply because we had not received those blanks.

Dr. King speaks about the "no trial." There was not any trial, but the lawyers did a great deal of work ahead of time. We had a couple of meetings of the lawyers and doctors, and there was something like thirty-five doctors subpoenaed to appear at the trial. Practically the doctors in Decatur were ready and prepared to support Dr. Anderson in his case. Of course, the other side absolutely knew there wasn't any case for them, because the profession was solid against them.

Now, Dr. Anderson did the best he knew how. He thought he was notifying the committee promptly,—that is, the Monday following the Friday on which he was served; he did the best he knew in notifying the committee, which was notifying the secretary.

Dr. Caldwell: I would like to offer an amendment that the bill be left to the chairman of the committee to settle as he sees fit and is able. I do not think the House ought to interfere with the committee.

Amendment seconded.

Dr. Krohn: *Mr. Chairman*, that would involve the suspension of your By-Laws, if we pay this bill without any instructions. The committee cannot, unless they have instructions from the House of Delegates. We have sought to adjust it. There are certain features about this that I do not believe the gentlemen appreciate. In the first place, we realize that we are trustees of your fund; that no raid can be made upon your fund. We have had our own trouble the past year in trying to adjudicate the old debts that were contracted in this self-same way.

The doctor has said that the medical defense fund is to be applied for getting men out of trouble. That is true. But when they make more trouble than is necessary, and make that trouble expensive, we do not feel that we should finance their blundering mistakes. We find that, while this bill was perhaps ample,—the amount of the bill,—it may not be excessive for the way

in which the work was done, but if the Medico-Legal Committee had been notified to carry out this work, much of this work is really work of the committee, sending out papers, and so on, and we could have obviated all this blundering work done by the doctor notifying us, and I think it is a serious matter for the House of Delegates to set aside the By-Laws for the exigency that presents itself here. There have been cases where we have been notified by long distance phone by the man himself at midnight from the most remote counties in the state; there is no reason in the world why he should depend upon the local secretary. If a man is sued for \$5,000 there is a certain pathway of defense open to him, if he is a man of judgment; if he is a man who is really anxious to abide by the rules of the society he will see that he gets action, not in a roundabout way through the local secretary, but he will see that he gets to headquarters himself. We should have been notified, and there is no reason in the world why we should pay for his mistake any such outrageous amount. (Applause.)

The President: The vote will be upon the amendment, which instructs the Medico-Legal Committee to make such settlement as they deem fit; the best settlement they can.

Dr. O'Byrne: I think that the gentleman should have come to us for instructions. The matter has been, as I am told, before the council and the matter should be settled by the House of Delegates, and not by the committee. There is much in what Dr. Krohn has said. It is a serious matter to suspend the By-Laws. It seems to me, however, that it might be best to take care of part of this indebtedness, a fair amount of the bill. It is excessive if the case was not tried in court, \$350.00. There was no court work done. The case was only settled in a very short time. But I do not think that the amendment should prevail. I think the House of Delegates should take this matter up. The matter has been before the Council and we are just simply evading our duty by shifting it back to the Committee and throwing a lot of responsibility on them and I think they should not bear it.

Dr. King: *Mr. Chairman*, the circumstances were practically as Dr. Bell stated. Dr. Anderson was notified of suit on Friday; he was busy on Saturday; the next day was Sunday. Sunday with us doctors in Chicago on that Committee is the same as Monday, Tuesday, Wednesday and



every other day. We do not know any Sunday when it comes to work to do. Now I have been called out of bed on long distance telephone from down in the state two different times in the last year. Those men were awake. It seems to me that Dr. Anderson could have notified us. He was notified on Friday. He did not try to see the local secretary until Monday; I do not know why, I am sure. That is what has been stated here. The Committee was open.

Dr. Nagel: I would like to ask how much of this expense has been incurred by this firm of lawyers?

Dr. King: That is hard to state. In a similar case and amount of work we have been in the habit of getting bills in the neighborhood of \$100.

Dr. Nagle: I would like to make a substitute motion that we substitute for the motions that are now before the House that the Committee be instructed to pay the sum of \$100 in full settlement.

Motion seconded.

Dr. Burkhardt: It seems to me that we are getting away from the real gist of this matter. The question for this House of Delegates to decide, absolutely—and there is no one wants to be unfair in the matter—is whether or not we are going to abide by our own By-Laws that we have already adopted. In other words, are we going to stand by the By-Laws? According to those we cannot pay one cent of this bill, because he did not act according to the rules and the By-Laws or Constitution of the Society.

It seems to me that there is only one way to handle this, and that is to absolutely endorse the Committee; stand by our Committee, or not stand by them.

Dr. O'Byrne: *Mr. Chairman*, I understand that the Committee did sanction a certain amount of money due this firm of lawyers. I would like to know whether this Committee did not incur any expense with this firm of attorneys. That is why I made the substitute motion.

Dr. King: All your Chicago members of that Committee talked it over and we talked of it in an informal way, that we really should take care of the expense from the time we were notified. But by that time the work was all done. There was no expense practically after that, except for a lawyer to walk over to the court room, one man, and have a case dismissed and

walk back and be in his office inside of fifteen minutes.

Dr. Nagel: I ask you how much expense was incurred by this firm of attorneys after this?

Dr. King: Practically none.

Dr. Nagel: I withdraw my motion, then.

The President: Substitute motion withdrawn.

Dr. O'Byrne: *Mr. Chairman*, I realize that what Dr. Burkhardt says is true, that we cannot do this without suspending the By-Laws. Dr. Nagle's motion is not in order unless the rule is suspended.

I think we should show some leniency in the case, but I think that we should take cognizance of the fact that, you know, we are all more or less negligent at times. It was only ten days between notification and trial. Of course, in Cook county we have two years, but they don't in some of the counties down in the state, and I think we should pay an ordinary fee in the case. It is worth \$100 for the lawyer to go over and have the case dismissed. We pay that in Chicago.

A Voice: No we don't.

Dr. O'Byrne: I move you, *Mr. Chairman*, that we suspend the rules which interfere with our paying any part of this obligation.

Dr. Burkhardt: My position is this, according to Dr. O'Byrne: Dr. King admits that there is perhaps some little obligation since the time that he was notified. If Dr. King thinks that that service is worth \$100 he can do that without any suspension whatever, because that bill occurred after a legal notification. Therefore, I think it will be left with the Committee and the Committee will do what is right about it.

Dr. O'Byrne: *Mr. Chairman*, the By-Laws provide that they should pay no bill that they did not contract for. They did not employ the lawyer at all. Dr. King suggested to the Committee that they do pay the expenses from that point, but they did not incur the bill. Did they, Dr. King?

Dr. King: They did to this extent, that we had our attorneys confer with those men and have the suit dismissed through the local attorneys.

The President: The motion is upon the amendment.

Dr. Caldwell: If we pass a motion it seems to me, here, allowing any specific sum we acknowledge an obligation. It seems to me that

our Committee has been careful and they brought in a splendid report of the work, and they should be sustained.

Dr. Harvey: I move that the matter be referred back to the Medico-Legal Committee.

The President: According to the amendment the matter is to be referred back to the Medico-Legal Committee for settlement as they see fit.

Dr. O'Byrne: Does that compel suspension of the rule?

The President: No, has no bearing whatever upon the question of rules.

Dr. King. The stenographer will please read Dr. Caldwell's amendment. (Amendment read.)

The President: Are you ready for the question?

Dr. O'Byrne: I would like to know what we are voting, Dr. Harvey's or Dr. Caldwell's?

The President: Dr. Caldwell's amendment was offered to Dr. Bell's motion. Now we are voting on the amendment as amended. All in favor of the amendment as made by Dr. Caldwell and as amended on motion of Dr. Harvey, please say "Aye."

Dr. O'Byrne: *Mr. Chairman.* Point of information. I would like to know what Dr. Harvey's amendment is.

(Motion, amendment and amendment to amendment read by the stenographer.)

The President: The motion is upon the motion of Dr. Bell, carrying the two amendments. Are you ready for the question.

Motion prevailed.

Dr. J. M. Lavin (Chicago): *Mr. Chairman,* I feel sure that most of this body are very patriotic and would probably be anxious to express their sympathy with and eagerness to participate in the National Preparedness Parade in Chicago, and as invitations have been sent out to twenty-five of the largest cities in this country, I think it would be a proper thing for us, as a body of the Illinois State Medical Society, to have a committee appointed to offer a resolution expressing our sympathy with this movement, and extend invitations to all members of the State Medical Society to meet in Chicago, and designate the place, to participate in that march.

A Voice: *Mr. Chairman,* I think this in an entirely political question, and a great many of us do not agree with the gentleman.

The President: The resolutions will be pre-

sented at the last bearing upon this, and I expect, doctor, it is hardly necessary to take up the question under the head of new business, because the resolutions are already prepared.

Dr. O'Byrne: *Mr. Chairman,* I ask the courtesy of the floor for Dr. John Weatherson. He has something to present to the House concerning training camps. I move that Dr. John Weatherson be granted the courtesy of the floor. Motion seconded. Motion prevailed.

The President: Dr. Weatherson has the floor.

Dr. Weatherson (Chicago): I represent the National Association of Military Training Camps. This association is made up of delegates from members who attended these various training camps last summer at Plattsburg, at Fort Sheridan on the shore of Lake Michigan, and the various student camps.

Now, I have been asked by the War Department, as a member of this Society, and also as a member of the Military Training Camp Association, to present to you an invitation to attend these camps and to explain the exceptional advantages we will have at these camps for physicians this summer. To those of you who are members of the Medical Reserve Corps, and have probably attended more of these camps than I, I will say that the camp that was to have been held at Fort Reilly and the camp that was to have been held at Sparta have had to be abandoned on account of the call of so many troops to Mexico. Two companies, however, of field hospital and ambulance companies have been retained in the Central Department and will be ordered to Fort Benjamin Harrison for the summer. Fort Benjamin Harrison is the camp selected for the students for the Central West. The Eastern Department will attend Plattsburg. These ambulance companies are completely equipped and officered. They have their hospital field tents, the officers' tents and kits of all kinds, the pack mules and field apparatus of all kinds. It is proposed to establish at this camp a two week's course, open to all physicians in the Central West. This two weeks' course will be conducted by the officers of the regular army, that is, the ordinary medical officers of the army, and will take up everything pertaining to field hospital work, ambulance work and sanitary communities, and so forth. And I want to tell you, gentlemen, that it is a fine two weeks' vacation. You go there and don a uniform, live in a tent;



you have to go through certain routine, for instance, physical exercise, setting-up exercises early in the morning; you will have your drill the same as the others, the manual of arms, then you will have the litter drill, loading the litter, manual of the litter, loading and unloading ambulances, and so forth; then there will be the tent drill and the regimental hospital, field hospital and ambulance company, in both peace and war, equipment, officers and men, quartermaster's duties and ordnance duties, and so forth. These things will all be taken up. There will be lectures and you will have to participate with the other members of the regular officers, non-commissioned officers, will be put right in their places and you will be taught their work, and it takes up a great many other things. For instance, the recruiting and examining of recruits and the papers and the records that are to be kept, and then camp sanitation. Then there is an advance course in map reading and the establishment of first-aid stations back of the firing lines. Then there is a non-commissioned officers school, student officers medical reserve corps. These things will all be taken up.

I would like as many members of this society as possibly can, who can get away for a two weeks vacation, to come down to Fort Benjamin Harrison and report at state camps, beginning July 5th, returning two weeks at a time, on through July and August. You can arrange to attend any one of those camps by writing to the Central Department at Chicago, the War Department, Central Department.

And I wish you all think over this matter, and as many as can try to attend one of these camps, and do something to be prepared in case we, as physicians, have to do something for our country in time of trouble.

I thank you for the courtesy. (Applause.)

The President: Continuing under the head of new business, I have a report of the president to make to this House of Delegates.

#### PRESIDENT'S REPORT.

*To the House of Delegates of the Illinois State Medical Society:*

The report of the secretary one year ago showed a membership of 6,501 in the State Society. During the year 638 members have been added, making a total of 7,139; during the year 40 members have died, leaving at this time 7,099 members on the rolls of the various county societies, and consequently members of the

State Society. Of this number 1,071 failed to pay 1915 dues before Dec. 31, 1915, and were temporarily suspended because of this failure, and are not entitled to benefits and privileges of medical defense. No special effort has been made to secure new members during the year, but much energy has been directed toward increasing the activity of those now in the various county branches, and we believe with good results.

Thirty-four county and district societies have been visited during the year, and in every place the interest in the scientific, social, educational and financial work of the State Society and its branches has been most satisfactory.

Seven public meetings have been attended by the president and addresses on health topics have been made by him. The public appears to be very ready to listen to "health talks," and the conviction grows stronger and more education along this line will tend to wean the people away from many of the dangerous frauds, and lead them to place more confidence in the doctor; to consult him earlier, resulting in mutual benefit to the profession and to the laity.

At the request of the late Dr. Rodman, president of the American Medical Association, and on authority of the Council, I visited Washington, where, in company of Dr. Rodman and a number of other presidents of State Medical Societies, we met the President of the United States, presenting him with a memorial urging that in any scheme of army "preparedness" the medical department be made efficient. President Wilson received us with promptness and courtesy, promising attention to our suggestion in his recommendations to Congress.

I have attended all Council meetings, and can not refrain from commending that body for its careful and conscientious discharge of the duties imposed upon it by the Constitution and By-Laws of our Society. It is to be especially commended for its management of the finances of the Society, which now show a most gratifying condition.

The Medico-Legal Committee has placed the "medical defense" proposition on a sound working basis, and its activity is to be commended.

The passage by the last legislature of bills inimical to the public interest was not due to any failure of the Legislative Committee to do its full share in the fight for proper health laws; it was probably due to the apathy of the profession at large. The Legislative Committee does not receive the support which the importance of its duties demand from the membership.

The reports of the other standing committees provided for by the constitution, will speak for themselves; though one committee provided for by resolution at the last annual meeting, the Cancer Commission, which will be a standing committee, has only organized at this session and will have no report until next meeting.

At the request of the "American First Aid Conference" I have appointed a committee from the State Society to that body, the members being Dr. Henry W. Gentles, Dr. A. M. Harvey, Dr. Harry E. Mock,

Chicago; Dr. J. L. Wiggins, East St. Louis, and Dr. W. F. Grinstead, Cairo.

THE ILLINOIS MEDICAL JOURNAL is of such importance to the membership that it should be maintained even though it could not be made self-supporting. Under the editorship of Dr. Pence it has maintained a high standard of efficiency; and the only changes I would suggest in its management is that the Council select from the membership an "editorial staff" consisting of such members as may signify a readiness to assist in the editorship under such rules as the editor-in-chief, the council and staff, may formulate; and that the salary of the editor-in-chief be increased sufficiently to justify him in devoting more time to the journal management; the associate editors serving without pay.

During the year your president has been honored by Governor Edward F. Dunne by appointment as delegate to the Mississippi Valley Conference on Tuberculosis, held at Indianapolis, Ind., Sept. 29 to October 1, 1915; and the National Conference of Charities and Correction, also at Indianapolis, from the 10th to 17th of this present month. Official engagements prevented by attendance at the first named conference, and this meeting of the State Society prevented attendance at the second.

Moved and seconded that the report of the president be approved and placed on file.

Motion prevailed.

Dr. King: *Mr. Chairman and Gentlemen:* You will remember in the House of Delegates last year you instructed your Medico-Legal committee on the matter of reinsurance and the matter of mutual insurance taken up by this society. Dr. Krohn has taken up one phase of that, and I think he has something to report to you, and I have here these pages of typewritten matter if you care to hear it.

A Voice: Triple space?

Dr. King: No, sir.

The President: Let's hear it.

Dr. King: This was prepared by Dr. Folonie, it was not my preparation—it was my work—because I felt that he was better prepared to go into this question of insurance than I was, so I will read what he has prepared:

Chicago, Ill., May 8, 1916.

GENTLEMEN: I have been requested to give a brief review of advantages and disadvantages which would follow adoption of a scheme of inter-insurance among members of Illinois State Medical Society to indemnify against judgments for malpractice.

In my opinion if such plan is undertaken, there is but one practical way to do so,—namely to organize an independent corporation for the sole purpose of indemnifying members against malpractice suits. This is now permitted by statute which is very liberal in its terms.

It could be made a condition of membership that any person seeking to join this mutual company should possess as a qualification a membership in Illinois State Medical Society. It could by its constitution provide for an annual audit by Illinois State Medical Society and that part of the directors of the company or possibly all of them might be nominated by the Medical Society. I think it being an independent corporation it would be better to have five directors, of whom two should be the president and secretary of the Medical Society,—the other three to be elected by the members of the indemnifying company.

As to the practical management of such a company, it would require first,—a managerial head who should have some experience in insurance,—as a loosely managed company not controlled by a person with some skill in insurance matters would sooner or later come in conflict with the insurance department; second,—the company should have an active secretary and this might be a bookkeeper or secretary with some executive ability. The duties which would devolve upon this person would be considerable, as the book-keeping in a mutual company is somewhat complicated. This officer would be compelled to follow up those not renewing membership by form letters, etc., keeping exact records of membership delinquencies, etc., all of which would of necessity have to be conducted in a strictly business way.

If the present defense plan by the Society is to be retained and I would recommend that it be retained in any event, then the expenditures of the indemnifying company would be limited to the managerial work indicated and the accumulations of a defense fund and its application to judgments.

An element which could be somewhat controlled would be the phase broadly termed "advertising," which would include follow up letters, publicity among members of the profession and the seeking of membership by various legitimate means.

It is my idea, however, that entry into this organization should be entirely optional with those desiring indemnity and not to follow as an incident of membership in the Medical Society.

The expenses of membership in such a society would necessarily be the subject of division among the members. Such companies are operated by levying of an initial assessment subject to further assessments, if needed, and a rebate if the amount of the original assessment is not used.

I have had a very considerable experience in insurance, having spent six years in the law department of a casualty company and prior to that time was associated with the management of mutual fire insurance concerns, so that I believe I am thoroughly capable both of advising you from a practical standpoint and also of organizing and managing such a company, if it meets with the approval of your Society.

I should not deem it desirable to form such an association, unless those in active charge of the Medical Society approve of the plan.

The greatest mistake made in organizing and running



such companies is in making the initial assessment too low and then finding the fund exhausted and when an additional assessment becomes necessary the members in the association drop their membership and the concern is immediately in difficulties. This can be obviated if the initial payment is sufficiently large to care for all likely contingencies.

Upon a premise that the membership would be from one thousand to two thousand members, I believe the initial assessment should be placed at \$15 per year. The assessments levied during the fiscal year would be applicable only to judgments against members against whom claims arose during that year. In other words, liabilities arising during that year.

An assessment of \$15 per member would in all likelihood eventuate in a rebate of a part of this amount, perhaps one-third or one-half, but no rebate in my judgment ought to be made until the expiration of five years and the disposition after that term of pending cases arising during the particular year in question, after which a rebate could safely be made.

The period of the Statute of Limitations, depending upon the form of action, is two years and five years, and the only contingency which can produce suits after that term would be injuries to minors, which might run for a longer term.

I am willing to undertake organization of an association as indicated, if it is your wish, but only upon condition that a committee or the officers of your organization shall in advance approve of the detail respecting compensation with respect to management, employment of secretary or active manager, with final determination as to propriety as to rates, conditions of membership, etc.

I would also be unwilling to undertake this responsibility unless coupled with an arrangement whereby the treasurer of the company should be bonded and his books annually audited by representatives of your society. In other words, I think even though the treasurer should be the same person as the treasurer of the Medical Society, as the funds must be kept distinct, your society would receive blame if the affair was not successfully managed and it should therefore be the subject of proper businesslike supervision at all times, being quasi-official, active obligation would consequently exist.

It is my opinion that indemnity under this plan can be secured upon a sound basis and at an expense less than insurance which could be purchased from a corporation organized for profit and this coupled with the fact that you would have complete information as to its financial condition, etc., at all times, are to my mind the principal advantages in the plan.

The principal disadvantage of the plan exists in the possibility that the management may at some time get into the hands of those who are dishonest or careless or ignorant of insurance matters.

If treated as a strictly business proposition and so handled these objections can be met. The advisability might be considered of contracting for the management of the company, upon the basis of a percentage of the initial assessment, but you will readily

understand that if such contract is made the person making such contract would necessarily have to figure a margin of safety for himself and this might prove more expensive than to handle the matter upon the basis of a fixed compensation or a varying salary or recompense to be fixed from time to time.

Yours truly,

R. J. FOLONIE.

The President: Dr. Krohn.

DR. KROHN: *Mr. Chairman:* I had rather a lengthy detailed report, working out the subject that was referred to me by the other members of the committee, namely, working out, or securing, rather, a special wholesale rate from established companies that would eliminate the commission. For example a company that charges fifteen dollars for five thousand dollars insurance, or twenty-five dollars for a more extensive policy, were sought to give us special rates that would eliminate the commission they pay to their agents, which is from 40 to 60 per cent. I had a special policy, probably the best policy that was ever written, devised by the agent of one of the largest casualties companies who gives the regular twenty-five dollar insurance, for nine dollars for five thousand dollar indemnity. Last Friday I received a telegram from the president in New York, stating that they had rescinded the action at the meeting of the board of directors, for the reason that all of their indemnity insurance had been actually at a loss; that the only reason that they kept up the doctors' insurance for indemnity was because through that they got the automobile and other insurance from doctors and that it made good the losses of the indemnity. So this action has knocked out my detailed report, which was a scheme of re-insurance.

I do feel that we must feel the immensity of the undertaking of organizing a mutual company, for the liability would be upon each member of that company. You could not withdraw if we ever did get a debt, from your financial responsibility for any indemnity that has occurred during your membership. You would also have longer than the two or five years in the case of minors. If a boy six years old broke an arm and was deformed, he could sue you two years after he was twenty-one years of age, and as a company became older you would have larger indemnities pile up. So that it seems to me that there is nothing definite that we can report at this time, because my definite report was spoiled by the veto from the company that had already made us this arrangement.

Some of the companies that are insuring individuals state that they have very low reserves and do not feel like undertaking the wholesale proposition at a lower rate, but are even considering advancing the present rate.

We are up against one feature. The insurance companies do not like to undertake to pay indemnities that may be incurred as a result of suits occasioned by our own medical defense, though they admit that our medical defense is better than they can supply; they admit that the organization of the medical defense

in this state is the best of any state in the Union, but they feel this, that when a case came up for trial which they could settle for three or four or five hundred dollars, they would rather settle it than pay the seven or eight hundred dollars for trial. The result is that they compromise the doctors into allowing the people to believe that we will pay tribute or pay blackmail provided the amount is small enough.

The purpose of the Medical Defense Committee of your organization is to have millions for defense, but not one cent for tribute. We are educating the ambulance chasing lawyers, the lawyers that are acting without principle, to get a case by hook or crook, to see that it is of no use to take a case against a doctor who is a member of the Illinois State Medical Society unless he has a guilt edged case, and that he will not have support for any of this blackmailing business that has been going on in former years.

I do regret profoundly that my report, which was a beautiful report (laughter) has been knocked out, I mean beautiful because of its contents, rather than because of its form,—by this veto. The Committee will, however, work on this plan and seek to secure some arrangement of getting a special rate; that is, these \$15.00 companies, if they will give us their forty per cent they pay the agents, and we will give them a thousand or two thousand members for the wholesale rate and they have no agency expense, we will ask them to give us that forty per cent off, and we will be glad to adopt them, or if they have a \$25.00 policy and will give a similar per cent off, we will get that, and we will submit it to you as soon as we can complete the arrangement.

That is all I can offer.

Moved and seconded that the report of Dr. Krohn be accepted and placed on file.

Motion prevailed.

Dr. Lavin: Point of information. I made a motion a little while ago that was seconded. Why was not that put to a vote?

A Voice: It is in the report on resolutions.

The President: The reason is that we are to have resolutions that are already prepared on that very subject, and that it was perhaps unnecessary to appoint a committee for that purpose.

Dr. Windmueller (Woodstock): I beg the privilege of the floor for Dr. Mann of Elgin, who has a communication for us.

The President: Let's hear the communication, Dr. Mann.

Dr. Mann. *Mr. Chairman and Gentlemen of the Illinois State Medical Society:* This is a communication received by me the day before I came down here. I have had it in my pocket and I am going to present it for either your individual consideration as physicians, or your consideration as members of the Illinois State

Medical Society. I will only read the first paragraph of the communication, which will give you an idea of its character. (Copy not available. It referred to a bill introduced into the Senate of the United States by Senator Works of California, which would prevent any doctor in the medical service of the United States belonging to our medical societies.)

Gentlemen, if that resolution prevails in the Congress of the United States, a medical officer of the United States Army and Navy, of the Public Health and Marine Hospital Service in particular, will be denied by law the privilege of associating with their professional brethren in gatherings of this kind. That influence will extend down through the officers of the National Guard and State organizations, and the result will be that a public medical officer cannot associate with you and participate in your deliberations.

There is only one medical society in the United States that I know of that is organized and incorporated by authority of Congress; the National Association of Military Surgeons of the United States is so incorporated, and perhaps these medical officers of the Health Departments of the government could, and many of them are members of that society. But you gentlemen in civilian practice, not having the military requisites to become members of that association, could not mix with the public health gentlemen.

I submit this to you for your consideration in any way that you see fit, and I thank you for your attention.

Dr. King: Mr. Chairman, I move you that this resolution be referred to the Committee on Public Policy. Motion seconded.

Dr. Nelson: *Mr. President,* I consider this question should receive quick action. I think there is not a member in this audience but regards that as one of the most pernicious, and I might say to you, the most damnable bills ever introduced in Congress.

Mr. President: We have a quick-acting Public Policy Committee.

Dr. Nelson: Don't you think it would have more weight if it were carried by this House of Delegates and immediately passed to our Congressmen and United States Senators? I make a motion to that effect as a substitute.

Dr. King: Mr. Chairman, I will withdraw my motion.



Dr. Nelson: I will make a motion that this House of Delegates take action at once and immediately and state the action of this House of Delegates to our Congressmen and United States Senators. Motion seconded.

Dr. Pence: Mr. Chairman, I would like to state that I took this matter up with Dr. Green, of the A. M. A. and asked him what it meant, and all about it the other day, and you will notice the A. M. A. had an editorial in one of the April numbers, I think it was, and they are treating it as a joke. They have investigated the matter and have it, as I understood from Dr. Green, pretty well in hand. He advised not too radical action. He said the bill was probably taken care of now, and would never be heard of again, and rather advised not too hasty action and not too many telegrams. I cannot word it just as he worded it, but he gave me to understand that the matter was taken care of; that the bill was practically put to sleep; that Works was looking for a place to let some of his hot air loose, and had the opportunity there to do it.

I think it had better be left to the Public Policy Committee, and the Public Policy Committee confer with the A. M. A. before doing anything radical.

The President: The motion would not carry with it any action.

Dr. Center: I wish to offer an amendment to the motion before the House, that the Chair appoint a committee of three to step into the ante-room and draw up a suitable message to our Senators and members of the House of Representatives to submit to this body during this session.

Dr. Nelson: I have taken second thought. I know what effect telegrams have on the members of Congress and our United States Senators; when they are deluged with telegrams they go into the waste basket and they receive them with disgust. It may be that this bill, as Dr. Pence says, is a joke, and it might be more effective to ignore it and treat it with that contempt which it deserves, but if it is a serious matter I believe it would have more effect and it would be money well spent for this society to elect a delegate, one of the best representatives of this society, and send him to Washington to consult with the members.

Dr. Mann: In defense of the matter I wish to state that Senator Works is the tool and the representative of the National League for Med-

ical Freedom. He combined representing the patent medicine interests and the unethical medical practitioners.

Most of you know what the National League for Medical Freedom is doing. If you don't you ought to know. I want to tell you that this is no joke. We may treat it as a joke, and as the settlers on the western frontier treated many an Indian outbreak, and pay for it with our heart's blood. The time to kill it is now, while we can, and whatever means we can adopt to do it we ought to do it. Senator Works ought to be buried so deep that he will never be heard from again.

Dr. O'Byrne: I will second Dr. Center's motion to appoint a committee of three to draft a resolution.

The President: I will name on that committee Dr. Center, Dr. Hall and Dr. Doan. Please retire.

The next order of business is resolutions.

Dr. Burkhardt: Mr. Chairman, I have a resolution which I wish to offer.

WHEREAS, The Illinois State Board of Health has within the past two years given abundant proof of a high degree of efficiency in the administration of the important duties with which it is charged, and,

WHEREAS, This efficiency in the administration of the Medical Department of the State Government has resulted in great benefit to the citizens of Illinois and,

WHEREAS, The State Board of Health has presented to this Society in this its sixty-sixth annual meeting a comprehensive program for needed medical and sanitary legislation, and a plan for enlargement and development of important services; therefore, be it

*Resolved*, That we express our approval and appreciation of the high character of the services rendered by the Illinois State Board of Health within the past two years; and be it further

*Resolved*, That we hereby approve the following proposed constructive program, presented by the secretary of the Illinois State Board of Health at this sixty-sixth annual meeting of the Illinois State Medical Society.

First: Legislation looking to the establishment of a full time medical health officer service in each county of the state.

Second: Legislation providing for the extension of the reciprocity licensure privilege to embrace all reputable practitioners of medicine and surgery.

Third: We recommend that the State Board of Health shall use its best endeavors to cause the abandonment of the inefficient plan now in common in many small communities throughout the state, and in lieu thereof establish an efficient health service under a competent medical director.

Moved and seconded that the resolution be adopted. Motion prevailed.

Dr. Roach: I offer the following resolution and move its adoption:

*Resolved*, That the House of Delegates, on behalf of the Illinois State Medical Society, appreciating the successful efforts of the profession of Urbana and Champaign in the preparations they have made for this meeting, give them their hearty thanks, especially their Arrangement Committee and its chairman, Dr. C. B. Johnson, who have arranged and directed a most delightful and most profitable session.

Motion seconded. Motion prevailed.

Dr. Frank P. Norbury (Springfield): *Mr. Chairman*, the proposition I have to offer is along the line of the work of the National Committee on Hygiene. There is a bill pending before Congress, the object of which is to create a division of Mental Hygiene and Sanitation in the United States Public Health Service. This bill is known as the Adamson bill in the House of Representatives, has the endorsement of the committee and is now on the calendar. This bill is before the Senate Committee, of which Senator Works is one of the members, and is being held up by him, and the object of which is evident. This appeal is to get it through the Senate and get it passed at this Congress, and what I have to offer is that this Medical Society give their endorsement to this bill and that the Senators and Representatives be given their endorsement. I had communications with the Representatives from Central Illinois, and I also have the backing, I think of Senator Sherman, but we need a little more resolution and a little more help to get this bill from the Senate committee. Therefore I beg leave to offer this resolution:

WHEREAS, The growing interest in problems of public health, both in their social and biologic values, have created demands for improved regulations in administration, investigation and educational oversight on the part of authorities having in hand the performance of these functions.

WHEREAS, The problems of mental medicine in this evolutionary development of public health service have become of great practical importance and have thrust themselves upon the attention of authorities in charge of this service.

WHEREAS, The burden of care of the mentally afflicted has fallen upon the states to a degree unprecedented in any other service except that of public school administration.

WHEREAS, There is before the sixty-fourth congress of the United States, now assembled in Washington, "A Bill to Provide Divisions of Mental Hygiene and

Rural Sanitation in the United States Public Health Service." The objects of which bill are to enable the government to deal more efficiently with the problems in mental hygiene which arise daily in various departments of the United States Public Health Service and to enable this service to do its share in bringing about better care and treatment of the mentally defective and in instituting measures for the prevention of mental disorders in which work the United States Government has as yet taken but small part.

WHEREAS, This bill has been approved by the House Committee on Interstate and Foreign Commerce and is now on the calendar. While in the Senate, in the Committee on Public Health and National Quarantine, it has been held up by Senator Works of California, who opposes all public health legislation. Therefore, be it

*Resolved*, That the Illinois State Medical Society in annual session assembled give expression to its endorsement of Senate Bill "S 2215" and House Bill 721, both of which are entitled, "A Bill to Provide Divisions of Mental Hygiene and Rural Sanitation in the United States Public Health Service," and that the secretary notify the senators and representatives from Illinois by transmitting a copy of this resolution and asking their co-operation in seeking passage of this creative health measure.

Dr. Norbury: I move that this resolution be adopted. Motion seconded.

Motion prevailed.

Dr. Harvey: The president of the State Board of Charities, who was present in Champaign the other day and unfortunately was called away, requested the following resolution to be put before this House of Delegates:

*Be It Resolved* by the House of Delegates of the Illinois State Medical Society in annual session assembled, etc., that it is the consensus of opinion of the organized medical profession of the State of Illinois that physicians should make out interrogatories in inquests in lunacy, and in proceedings in feeble-mindedness, only after the most careful medical examination and should refuse to make out such documents or to sign them unless every opportunity for the studying of each case has been given.

Dr. Harvey: In support of that the president wishes the following to be read:

Abstract of a report by A. L. Bowen, Executive Secretary, State Charities Commission, of the Commitment of Miss X. to the (——) State Hospital, and her release as sane on (—— date).

Mrs. X. and her daughter have not been congenial and have had frequent disputes. On the evening of (—— date), Mrs. X. demanded that her daughter accompany her to the home of a neighbor to remain over night. Miss X. did not assent willingly. The man of the house used physical force to drag her into the home.

The next afternoon Miss X. was arrested and taken



to the court house. There a commission consisting of Dr. ——— and Dr. ——— filled in the commitment papers. Neither doctor had ever attended this young woman or knew of his own knowledge anything about her mental condition.

The questions or interrogatories were answered by them but Mrs. X. furnished the information. Some of the questions so answered these doctors could not have answered except after careful examination or previous intimate acquaintance with the patient.

Miss X. said the doctors asked her only a few questions,—an assertion not disputed by her mother.

For instance, the question "mental disposition" is answered "violent temper." The question "Character of delusions" is answered "persecution."

Under general remarks is the comment, "She has slept with knives and guns under her pillow." "She has repeatedly made threats to kill her mother, herself and others."

The same day, accompanied by the sheriff and his wife, Miss X. came to the ——— State Hospital. The hospital sent Mrs. X. its blank "Information regarding patient prior to admission." It was returned signed by Mrs. X and Dr. ———. Mrs. X told me that Dr. ——— filled in the blank as she dictated and not from his knowledge of the patient.

For a month physicians sought for evidence in support of the charges made against Miss X., but found none. A month after admission she was presented to the staff and unanimously declared sane.

The truth is, she never was insane.

Dr. Harvey: The President of the State Board of Charities wishes this resolution adopted because he is fearful that some of the physicians in the State are going to get into trouble by such action, that there will be prosecution, that it is against the law and there are liable to be some damage suits on their hands.

I therefore move the adoption of this resolution. Motion seconded.

Motion prevailed and the resolution was adopted.

The President: We will listen to the report of the resolution of Dr. Center.

Dr. Center: I wish to introduce the following resolution:

The House of Delegates of the Illinois State Medical Society endorses heartily the general movement for national preparedness and urges all members of the said society to take advantage of the opportunities offered by the federal government to become instructed and trained in the technical things pertaining to the duties of medical military officers.

C. D. CENTER.

Upon motion by Dr. Center, duly seconded, the resolution was adopted.

Dr. Armstrong: *Mr. Chairman, Ladies and*

*Gentlemen:* Since we all hear numerous charges of various offenses, and all observe such offenses, or many evidences of them, such as gross advertising and so forth, and since few individuals are willing or wish to prefer charges or accusations, and it can readily be understood that in any common community, especially with a small struggling society one cannot make charges as an individual without serious detriment to himself and probable disruption of the County Society, which a person in an official position can make as an impersonal official; it would seem wise, therefore, that the House of Delegates should consider the passing of a standing rule by which it would designate a method of procedure by which the Illinois State Medical Society may protect its membership through the council when any member is guilty of some overt act.

In the present organization of the Illinois State Medical Society and its Council, the secretaryship of the Council is filled by the Secretary of the Illinois State Medical Society, and while these two secretaryships are held by the same individual, the two official positions must be considered as much apart as if they were occupied by two separate individuals.

We suggest the enactment by this House of Delegates of a standing rule, directing the Secretary of the Illinois State Medical Society to file charges against members of the Society when overt acts on the part of such members, supported by reasonable evidence, are brought to the attention of the Secretary of the Illinois State Medical Society. This plan, I think, is just and equitable, when we consider in conjunction the fact, as I explained, of the local society, especially the small society, which is so impractical, so even impossible, and the disruptions which its attempts produce.

Second, the automatic granting of membership in the Illinois State Medical Society with membership in the County Society.

Third, that the By-Laws of this Society, Chapter 8, Section 3, make the Council the Board of Censors of the Society.

Fourth, our belief that thereby many abuses which place organized medicine in a bad light would be done away with, or the perpetrators ousted, and saving thereby much embarrassment to the profession and probably money of the defense fund.

Now, gentlemen, just a word in defense of this.

First, this same procedure was adopted by the American Medical Association last year.

Another point is, I think, that it occasions no change or amendment to the By-Laws. It is simply defining a method of procedure. I think also it would not necessitate any change in the present methods, but only be a matter of choice, and I would suggest that it be referred to the proper committee for investigation. This matter may then be taken up by this House of Delegates next year.

I move that the matter be referred to the Council. Motion seconded.

Motion prevailed and the matter referred to the Council.

Dr. Lavin: Mr. Chairman, my motion was seconded by Dr. Betts, and was not put to the House of Delegates. I would like to have the resolution read, please.

The President: Restate your motion, Dr. Lavin.

Dr. Lavin: That this body signify their willingness to attend the National Preparedness Parade in Chicago June 3rd. There has been an invitation sent out to twenty-five of the largest cities in America to attend, and all the civic bodies in Chicago.

The President: Does this cover an invitation to the State Society members to attend that Preparedness Parade?

Dr. Lavin: Yes, sir. We can arrange a point where we can meet in Chicago and be assigned to a position in the parade.

Dr. Pigault: I second the motion.

Motion prevailed and the resolution adopted.

Dr. O'Byrne: I move you, Mr. Chairman, that a vote of thanks be extended by this House of Delegates to our retiring president for his efficient and capable service during the past year and for the fair and impartial way in which he presided over the meeting of this House of Delegates.

Motion seconded.

Motion unanimously prevailed.

President Lillie: The president of the society also wishes to thank the members of the House of Delegates for the universal courtesy which has attended every action at this session of the State Medical Society.

Further, to extend thanks to the 7,000 members of the great Society of the State of Illinois,

all of whom, I believe, are in sympathy with our progressive activities.

Dr. Harvey: Dr. Lavin, I should like to ask for information. Is Dr. Lavin present? Was there a rendezvous appointed?

Dr. Lavin: No, that was included in the motion.

Dr. Harvey: It seems to me some action should be taken and the appointment of a proper committee to take charge of this.

Dr. Lavin: I move that the Chair appoint a committee to take charge of this.

Dr. Harvey: I second that motion, Mr. President.

Motion prevailed.

The President: The committee to take charge of the parade, that is of the members of the Society, and provide for their entrance into the Preparedness Parade in Chicago, will be Dr. Lavin, Dr. O'Byrne and Dr. Farrell.

Dr. Armstrong: *Mr. Chairman*, I have just a few words here. It may appear superfluous. It may be of interest to a member in the smaller communities, and I am sure it would be to me.

*Be it resolved*, That we favor the efficient medical inspection in the publication schools of the state and advise its general adoption by the employment of a full-time inspector by the school or by the co-operation with others, either schools or municipalities.

I move its adoption. Seconded.

Motion prevailed and resolution adopted.

Dr. Gilmore: I move we adjourn.

Motion seconded.

Motion prevailed, and the House of Delegates adjourned to meet in general session at 4:00 p. m. the same day.

#### AUDITOR'S REPORT, ILLINOIS STATE MEDICAL SOCIETY, MAY 16, 1916.

##### *Board of Directors, Illinois State Medical Society:*

Gentlemen: We have made an examination of the books of account and records of the Illinois State Medical Society for the year ended May 16, 1916, and submit herewith our report.

The general fund at May 16, 1915, showed an overdraft of \$2,109.50. Receipts for the year, exclusive of the income from advertisement, etc., totaled \$12,574.95. The disbursements aggregated \$5,153.26, leaving a balance of \$5,312.19. After deducting from this balance the excess of disbursements over the receipts on the JOURNAL, the balance in the fund at May 16, 1916, amounted to \$1,897.47.

In connection with the JOURNAL it should be noted, however, that there has been charged against this year the editor's salary for both the years 1914 and



1915. Accordingly, the profits for this year are penalized with the expenses of the former year.

The office expense and the stenographic expense we have charged against the JOURNAL, although we understand the greater portion of this should be charged direct against the society expense, rather than against the JOURNAL.

In former years it has been the custom to collect all the open accounts prior to the end of the year, but this year there were uncollected accounts and notes on advertisements to the amount of \$1,065.01, which were received after May 16, 1916.

If we take into consideration the foregoing items, the JOURNAL would show an actual cost to the society for the year of \$531.43.

We present herewith a statement of the cash receipts and disbursements for the period and include the transactions of the Medico-Legal Defense Fund. The balance in this fund at May 16, 1916, amounted to \$14,646.97, thus increasing the total in the two funds to \$16,544.44. We verified these funds by direct communication with the depositaries, as follows:

Illinois Trust & Savings Bank, Chicago.....	\$ 53.77
Farmers State Bank, Belvidere.....	16,490.67
	<hr/>
	\$16,544.44

We have accepted the book figures for the income from advertisements in the JOURNAL, as it would not be practicable for us to verify them in the time available.

In our examination of the record we found that all disbursements were supported by canceled bank checks and vouchers on file.

The amounts received from the secretary have been verified by examination of the records kept by that individual, but we have not confirmed the receipts shown in his records by communication with the parties remitting to him.

Very truly yours,

ERNST & ERNST,  
Certified Public Accountants.

#### CASH RECEIPTS AND DISBURSEMENTS.

##### ILLINOIS STATE MEDICAL SOCIETY.

May 16, 1915, to May 16, 1916.

##### GENERAL FUND.

May 16, 1915—Balance on hand.....\$ 2,109.50

##### RECEIPTS.

May 18, 1915—W. H. Gilmore.....	\$3,000.00
W. H. Gilmore, subscriptions.....	9,574.95
	<hr/>
	12,574.95
	<hr/>
	\$10,465.45

##### DISBURSEMENTS.

President's expense.....	\$ 353.87
Stenographer .....	270.65
Councilor expense.....	575.46
Medical education.....	13.20
Stationery and printing.....	358.70
Legislative committee expense.....	938.16

Badges .....	103.92
Expense of annual meeting.....	352.88
A. J. Markley, treasurer—salary two years .....	100.00
W. H. Gilmore, secretary—salary two years.....	1,200.00
W. H. Gilmore, assistant's salary two years .....	600.00
Miscellaneous .....	286.42
	<hr/>
	5,153.26
	<hr/>
	\$ 5,312.19

##### JOURNAL.

C. D. Pence, editor—salary two years .....	\$1,800.00
H. G. Ohls, salary.....	720.00
Stenographer .....	603.10
Printing .....	5,997.47
Postage .....	800.00
Office expense.....	315.18
Commissions .....	345.62
Miscellaneous .....	32.40
	<hr/>
	10,613.77
Less income from advertisements, etc.	7,199.05
	<hr/>
	\$3,414.72
May 16, 1916, balance.....	1,897.47

##### MEDICO-LEGAL DEFENSE FUND.

May 16, 1915, balance.....\$11,365.62

##### RECEIPTS.

May 18, 1915, W. H. Gilmore.....	7,950.00
	<hr/>
	\$19,315.62

##### DISBURSEMENTS.

Stenographer .....	\$ 185.42
Defense service.....	4,398.08
Stationery and printing.....	85.15
	<hr/>
	4,668.65

May 16, 1916, balance.....	\$14,646.97
May 16, 1916, balance (both funds).	16,544.44

##### DISTRIBUTED AS FOLLOWS:

Illinois Trust & Savings Bank, Chicago .....	\$ 53.77
Farmers State Bank, Belvidere, Ill. ....	16,490.67
	<hr/>
	\$16,544.44

#### DO YOU KNOW THAT

Walking is the best exercise—and the cheapest?  
The United States Public Health Service administers typhoid vaccine gratis to Federal employees?  
A little cough is frequently the warning signal of tuberculosis?

Bad teeth and bad tonsils may be the cause of rheumatism?

Unpasteurized milk frequently spreads disease?

The air-tight dwelling leads but to the grave?

Moderation in all things prolongs life?

The careless spitter is a public danger?

# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society, under the direction of the Publication Committee of the Council.

## GENERAL OFFICERS, 1915-16

PRESIDENT.....WILLIAM L. NOBLE, Chicago  
 PRESIDENT-ELECT.....E. B. COOLLEY, Danville  
 FIRST VICE-PRESIDENT.....C. F. NEWCOMB, Champaign  
 SECOND VICE-PRESIDENT.....R. A. MCCLELLAND, Yorkville  
 TREASURER.....A. J. MARKLEY, Belvidere  
 SECRETARY.....W. H. GILMORE, Mt. Vernon  
 (Ex-officio Clerk of the Council)

## THE COUNCIL

District 1—EMIL WINDMUELLER, Woodstock.  
 District 2—EDWIN S. GILLESPIE, Wenona.  
 District 3—CLYDE D. PENCE, Chicago.  
 District 4—AUGUST H. ARP, Moline.  
 District 5—C. S. NELSON, Springfield.  
 District 6—C. D. CENTER, Quincy.  
 District 7—C. F. BURKHARDT, Effingham.  
 District 8—C. E. PRICE, Robinson.  
 District 9—FRANK C. SIBLEY, Carmi.  
 CLYDE D. PENCE, *Chairman*, 3338 Ogden Avenue.

Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

## MEDICO-LEGAL COMMITTEE

ANDY HALL.....Mt. Vernon  
 WILLIAM O. KROHN.....Chicago  
 GEORGE STACY.....Jacksonville  
 D. R. MACMARTIN.....Chicago  
 C. B. KING, *Chairman*.....3938 Jackson Blvd., Chicago  
 THOMAS D. CANTRELL, *Secretary*.....Bloomington

## GENERAL COUNSEL

ROBERT J. FOLONIE.....39 S. La Salle Street, Chicago

State society will pay no bills for legal services except those contracted by the committee. Notify the Chairman at once. Don't employ attorneys.

JULY, 1916

## Editorials

### VERMILION COUNTY MEDICAL SOCIETY HONORS DR. COOLLEY.

The House of Delegates at Champaign thought Dr. E. B. Coolley had something coming to him—they elected him President-elect of the Illinois State Medical Society. Vermilion County Medical Society also thought Dr. Coolley had something coming to him—they proceeded to give him a Complimentary Dinner and, so we hear, a few things besides.

On the evening of June 19, over eighty of the doctor's medical friends and their wives dined in the beautifully decorated dining room of the Plaza Hotel at Danville. Dr. Joseph Fairhall was toastmaster of the evening. The speakers were chosen because of their intimate knowledge of Dr. Coolley during the several stages of his career.

Dr. F. W. Burres, Urbana, told of Coolley, the boy; Dr. John Ross, Pontiac, of Coolley, the literary student; Dr. George F. Butler, of Coolley, the medical student; Drs. Michaels and Babcock, of Coolley, the country doctor; Dr. J. M. Guy, of



Dr. Coolley's First Office

Coolley, the physician; Dr. R. A. Cloyd, of Coolley, the medical politician.

All this was not sufficient, so they sang appropriate songs about him. The Menu Card carried with it a sketch of the doctor's first office, a reproduction of which we give above.

Not all of this was fair. Dr. Coolley thinks friends should not have such accurate memories, particularly Dr. Butler. Dr. Coolley's wife and sons were present.

### BANQUET TO DOCTOR WHALEN.

On June 21, 1916, Dr. Charles J. Whalen completed his term as president of the Chicago Medical Society, and that evening the society tendered a banquet in his honor. The dinner was given at the Auditorium hotel, and in all about two hundred were present.

Dr. W. T. Mefford was toastmaster. The speakers were: Dr. W. L. Noble, president of the Illinois State Medical Society; Dr. E. B. Coolley,



president-elect of the Illinois State Medical Society; Dr. Cheston King of Atlanta, Ga., and Dr. A. A. O'Neill, president of the Chicago Medical Society. The society, through its trustees, presented Dr. Whalen with a handsome watch.

Dr. Whalen has served the society many years in several capacities, not the least of which was his services on the organization and legislative committees. After his retiring as president of the state society he was elected president-elect of the Chicago Medical Society. Not many have given as much untiring service to the society or to the profession. At the close of the dinner the incoming officers were introduced and their terms of service begun.

### THE WINE OF CARDUI SUIT.

One of the most unfortunate blows that has befallen organized medicine was the verdict recently rendered by the United States court against the Journal of the American Medical Association in the famous Wine of Cardui suit. The verdict was not unlooked for, and it is rumored that had not the principal plaintiff died during this trial, the jury would have found for the plaintiffs the full damage asked, \$300,000.

The Journal of the American Medical Association was not as well supported as it should have been. There was some evidence given during the trial by well known medical men which was surprising to say the least.

There was a large amount of work done by both sides in trying the case. Many witnesses were brought from long distances; a large array of legal talent was employed; all of which made the financial burden very large. However, the loss financially to the society is small, compared to the effects this verdict may have upon organized medicine and as well upon the patent medicine business. Much of the progress made by our wonderful Society during the last few years in bringing the practice of medicine up to its highest level will be retarded. The Association will lose prestige both from the laity and from the judiciary.

Fortunately the burden of a large financial judgment was escaped. The activities of the American Medical Association should be limited to those things which are of interest to the medical profession. The social or religious standing

of a layman is no part of medicine or of medical interest. Intelligence, judgment and discernment must be used in full measure by the Society to insure against the possibility of unfavorable verdicts in the future.

### ILLINOIS STATE MEDICAL SOCIETY.

#### FIRST ANNUAL OUTING.

STARVED ROCK STATE PARK, UTICA, ILL.

*July 12 and 13, 1916.*

#### COMMITTEES.

Annual Outing—Dr. E. E. Perisho, Streator; Dr. E. S. Gillespie, Wenona; Dr. E. W. Weis, Ottawa; Dr. A. P. Middleton, Pontiac; Dr. T. D. Cantrell, Bloomington.

Publicity—Harley V. Pettit, Ottawa.

Entertainment and Sports—Dr. R. C. Fullenweider, La Salle; Dr. R. H. Woods, La Salle; Dr. Ralph Cressman, Oglesby.

Registration and Badges—Dr. E. E. Perisho, Streator.

Hotel Reservations—Dr. E. W. Weis, Ottawa.

#### PROGRAM.

*Wednesday, July 12.*

Forenoon—Arrival and Registration.

11:00 a. m. to 2 p. m.—Dinner at Starved Rock Hotel.

2:00 p. m.—Address by Dr. William Seaman Bainbridge, New York City.

3:00 p. m. to 5:00 p. m.—Out-door sports.

Visiting Deer Park Canyons.

Through the courtesy of Dr. Fullenweider, of La Salle, anyone desiring to play golf will be extended the privilege of the Deer Park Country Club.

5:00 p. m. to 7:00 p. m.—Supper at Starved Rock Hotel.

8:00 p. m.—Dancing at the pavilion.

*Thursday, July 13.*

7:30 a. m. to 11:00 a. m.—Hiking trip through canyons and glens in the vicinity of Starved Rock.

11:00 a. m. to 12:15 p. m.—Dinner.

12:30 p. m.—Ten-mile river excursion up the Illinois river.

3:30 p. m.—Return trip to Starved Rock.

For railroad timetable see page 25.

## RUSH ALUMNI HONOR PROFESSOR HAINES

The annual Rush Faculty and Alumni banquet at the Auditorium Hotel, June 10, was one of the largest and most enthusiastic of Rush's long history. Nearly every class was represented; in a few cases men attended who had never before returned since their graduation. The attraction for old and young alike was the opportunity to pay honor to Professor Walter Stanley Haines, whose portrait was presented to Dean Frank Billings for the College by Dr. Wm. T. Belfield on behalf of the alumni. Dr. Norman Bridge presided in his usual felicitous manner as toastmaster. Dean Billings' acceptance was couched in graceful compliment to the guest of honor. Although formally excused from responding, Dr. Haines, with characteristic modesty, disclaimed any undue share in the great achievements of Rush and gave credit to his colleagues of early and later periods for much that has given the college renown. The ovation Dr. Haines received attested the love and admiration of forty classes of graduates, who, whatever their attachment to the college, have been a unit in their devotion to the senior professor.

The presentation address of Dr. Belfield was received with shouts of approval that recalled the "leather lunged" era to which he so wittily referred.

---

### PRESENTATION OF THE PORTRAIT.

DR. WM. T. BELFIELD.

*Mr. Toastmaster:* October, 1876, was an epoch in the history of Rush Medical College, marked by three notable events: first, the building that we now call old, but then was new, was opened for instruction; second, Professor Haines began his work in the college; and, third, a most remarkable class was matriculated—remarkable in that it consisted exclusively of intellectual giants! I know, for I was one of them.

I will concede to the carping critic, that the faculty records of my class do not entirely support my estimate; I will concede that those records might give the impression that this class was indeed remarkable, but solely for toughness; I will even concede that this erroneous impression prevailed in the faculty at that time; but I

stoutly maintain that the ill-repute of my class rested solely upon a series of unfortunate accidents. One of these which I witnessed, I will relate to support my contentions:

Our venerable professor of physiology, lecturing in the upper amphitheatre, passed around the class generous portions of human liver to illustrate his remarks. When the class rose at the end of the hour, a student in the topmost row, desiring to attract the attention of a friend in the front row, threw a chunk of liver at him. And then occurred one of the accidents previously mentioned, for the liver sailed over the student's head and landed on the professor's shirt-front.

Only those of us who knew the college of that day can comprehend the revolution in the atmosphere of the student body, that has since occurred. Now, that atmosphere is refined and perfumed by emanations from abbreviated skirts; then, while we ardently admired skirts of whatever brevity, none of us wore them. Now, the leisurely student is allowed four terms of nine months each to cover the course from matriculation to graduation; then we were hustled over the same course in two terms of five months each. Now is the era of individual instruction; the faculty is almost as numerous as the student body; then, the students numbered about four hundred, the professors ten. The faculty had never heard of individual instruction; all of us, recruits and veterans alike, were herded in one room, and heard the same lectures; and at the end of the term we were cordially invited to come back the next year and hear the same lectures over again.

Such was the school and such the class which a kind fate ordained should feel the humanizing influence of Professor Haines.

Now, Dr. Haines, though then a boy in years, was no novice in chemistry; he had spent years in the best technical schools of the country; and he had served an apprenticeship in a medical school on the south side, whose chief claim to fame is that many of its best teachers have been promoted to Rush professorships.

Nevertheless, we intellectual giants did not welcome his appearance in our faculty; first, because it was against the traditions of Rush students to learn any chemistry; and, second, because we were not willing that the chaste atmosphere of our school should be polluted by



any pussyfoot immigrant from the south side. Hence when the hour arrived for his first appearance before a Rush class, the gang was all there.

The door opened, he entered. For a moment there was silence—we were waiting for the rest of him to arrive. Then the heavens were rent with such pandemonium of vocal horrors as eight hundred lusty lungs could produce.

But the little man was game; red heads often are. He waited and he waited and still he waited; finally came the inevitable lull for second wind; then his clear, resonant voice secured and retained attention to the end of the hour. He came, we saw, he conquered. In fact that class has always felt a proprietary pride in Prof. Haines' career; for we saw him first; and we set the popular fashion of presenting him at the end of the term, with a token of his pupils' regard. I recall but one criticism of him by a class-mate—it was this: "Whenever I talk with Professor Haines I feel as if I ought to go home and put on a clean shirt."

I trust I shall betray no confidences by relating a bit of unwritten history. Soon after Dr. Haines joined our faculty, some of his older colleagues urged him to abandon chemistry and take up gynecology. They argued that a man who could charm medical students, could make a gorgeous living out of woman. One of them said to him: "Haines, if you will become a gynecologist, I will guarantee that within a few years your office will resemble Joe Rogers' front yard. Never heard of Joe Rogers, perhaps? Well, Joe is an old fellow who lives in the little town that I came from; and he raises flocks of chickens. But Joe never pays his rent; hence he is compelled to move quite often—so often indeed, that whenever a wagon backs up to his front gate, all the chickens in the yard lie down on their backs, and hold up there legs to be tied."

But these allurements failed to shake Dr. Haines' fidelity to his first love. At least that is what he said; the general suspicion was that he knew but little gynecology and was too modest to learn more.

It would be a labor of love for me to enumerate some of the traits of that charming personality that has endeared Professor Haines to forty classes of Rush students. But such enumeration would be superfluous; for you know him; and

you have created an impressive, a convincing token of your regard—this portrait (unveiling the canvas).

You will notice that the Haines on the canvas is less generously sprinkled with snow than is the Haines at the table. To the latter's desire to be pictured as he is today, Dr. McEwen's committee in charge of the matter, objected, insisting that as the portrait is the creation of forty classes, all of them are equally entitled to see on the canvas the man whom they had severally known in the classroom. Finally it was agreed that the canvas should portray a composite of these forty Haineses; and this commission the artist has cleverly executed.

*Dean Billings:* We Alumni of Rush desire to renew, on this occasion, our vows of filial loyalty to our Alma Mater; we are proud of what she has been, we are especially proud of what she is. We recall with gratitude the wise counsels of her servants, the faculty; we gaze with reverence upon the portraits and busts which grace the college walls, commemorating some who have gone before. We desire to add to that collection this unique portrait—unique, because it portrays the only man who has been a full professor in Rush for forty years, one-half the corporate life of the college; unique, because it portrays the only man who has ever been thus honored, by the Alumni; unique, because his work with us is not yet finished.

*Mr. Dean:* Forty classes of her children present to their Alma Mater this token of their admiration, of their affection for one who has done much for her and for them; a scholarly scientist, an ideal teacher, a true and gentle knight—Walter Stanley Haines.

---

#### TUBERCULOSIS NOTES.

Alcoholism and tuberculosis are closely related. Fully fifty per cent of tuberculosis children have parents addicted to alcohol.

A hemorrhage should be conceded to be due to tuberculosis, unless some definite evidence is present of bleeding from other parts, which, however, is rarely the case.

Three enemies of tuberculosis—fresh air, food and rest.

In the tenement district of Cincinnati the tuberculosis morbidity is three times as great as in areas where better housing conditions exist.

It is the general constitutional symptoms that make a diagnosis of tuberculosis. The local findings demonstrate the organ involved.

The absence of tubercle bacilli is only an evidence of non-ulcerative processes, and does not negative a positive diagnosis.

In the year of 1915, A. D., fifty per cent of the patients at four sanatoria were told or else understood their physician to say they had bronchial trouble, grippe, run-down condition, spot on lungs, weak lungs, etc.

Where there is poverty we find the greatest number of cases of tuberculosis.

The treatment of pulmonary tuberculosis:

1. Rest and graduated exercise.
2. Good food.
3. Fresh air.
4. Tuberculin.
5. Climate.
6. Intelligence both on the part of the doctor and the patient.

WARNING.

We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the country. He is fraudulently soliciting orders and collecting money for subscriptions to medical journals and for medical books published by various firms. He usually represents himself as a student, working his way through college and trying to get a number of votes to help him win a certain contest. He sometimes uses the names of L. D. Grant, H. E. Peters, R. A. Douglas and F. C. Schneider, and he usually gives a receipt bearing the heading of some society or association, such as United Students Aid Society, the Alumni Educational League, the American Association for Education, etc.

The description given of this swindler is—young man of the Jewish type, rather slender, with very dark hair combed straight back and shows his teeth plainly when talking.

The whole scheme is a fraud. The societies mentioned do not exist. The idea is to collect money by offering special discounts and prices on medical books and journals and skip with the money.

This young man does not represent W. B. Saunders Company, whose name he frequently uses. He is a fraudulent subscription agent, and physicians, generally, should be on the lookout for him.

RESULTS OF THE PHYSICIANS' EXAMINATION HELD BY THE ILLINOIS STATE BOARD OF HEALTH IN CHICAGO.

January 13, 14 and 15, 1916.

Physicians—Present, 69; passed, 41; failed, 23; incomplete 5.

PASSED.		
College—	Year Grad.	Passed
Bennett .....	(1914, 3), (1915, 5), 1916, 2)	10
Chicago College Medicine & Surgery.....	(1914, 2), (1915, 8)	10
Hahnnemann, Chicago.....	(1915, 2)	2
Jenner .....	1915	1
Johns Hopkins.....	1914	1
Marquette University.....	1913	1
Meharry Medical College.....	1914	1
Northwestern.....	(1911, 1), (1915, 3)	4

National University, Athens.....	1895	1
New York Homeopathic Medical College.....	1915	1
Rush .....	1915	7
University Medical College, Kansas City.....	1907	1
Western University, Ontario.....	1910	1
FAILED.		41
Bennett .....	1915	7
Chicago Coll. Medicine & Surgery.. (1914, 1), (1915, 1)		2
Chicago Hospital College of Medicine.....	1915	3
College of Medicine & Surgery, Chicago.....	1910	1
Hospital College of Medicine, Louisville, Ky.....	1904	1
Illinois Medical College.....	1910	1
Imperial University, Moscow.....	1895	1
Jenner .....	1915	1
Meharry Medical Coll.. (1911, 1), (1914, 1), (1915, 1)		3
National, Chicago.....	1908	1
National University Arts & Sciences, St. Louis.....	1914	1
University of Louisville, Ky.....	1913	1
		23

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE.

At the University of Illinois, College of Medicine, Chicago, during the graduate summer quarter (June 20-September 12), in addition to the scheduled courses a series of lectures will be given before the faculty and students to which physicians and all others interested are especially invited. The series will include about twenty lectures upon special research topics in the preclinical sciences by men from various institutions throughout the country. Detailed announcements of these lectures will be published from time to time. The opening of the graduate quarter occurred June 20, and the first lecture of the series was given on that date at 11 a. m. by Dr. Frank Billings, his subject being "The Relation of Graduate Work in the Fundamental Sciences to Clinical Study." President James presided and gave an introductory address on "Graduate Work in Medicine."

Public Health

BIRTH AND DEATH REGISTRATION INCREASED.

The practicability of the Birth and Death Act, passed by the Forty-ninth Illinois General Assembly, has been put to the test and the results have been exceedingly satisfactory. The new system of registration has been in effect only since the beginning of the year and, during that time, an enormous expenditure of time and labor has been required to put in operation the machinery which involved several thousand officials and no end of technical detail. During the first three months of the year, however—the results of which have just been tabulated—the returns of death in all sections of the State, exclusive of Chicago, were fifty-two per cent. higher than for any similar period in the history of the State. The Chicago mortality figures have been complete for several years.

During the same period the registartion of births outside of Chicago was thirty-six per cent. higher than ever before and there has been some increase, under the operation of the new law, in the birth returns for the city of Chicago. As is generally known,



the reports of births in Chicago have been greatly increased during the past few years, largely through the efforts of County Clerk Robert M. Sweitzer and, consequently, the new law has not had as much effect upon birth registration in Cook county as elsewhere in the State.

The Illinois Birth and Death Law will be put to the supreme test, however, when officers of the federal government will visit the State to check up the birth and death registration to determine whether Illinois is to be admitted by the Bureau of the Census as a "registration State." If, at that time, it is found that the reports of births and deaths are ninety per cent. complete, the stigma which has long rested upon Illinois, as being one of the few large States not recognized by the Bureau of the Census, will be removed and Illinois may take her place with other progressive commonwealths.

It is hoped that all of the physicians of the State will cooperate to bring the registration of vital statistics to a satisfactory standard within the next two months. This will not only afford the State Board of Health a reliable and necessary foundation for intelligent public health work, but will place the Board, as a medical registration organization, in an infinitely better position than it has been in the past. The fact that Illinois did not have creditable registration of vital statistics has been a source of embarrassment to the Board in its efforts to negotiate more satisfactory relations in reciprocity in medical licensure with other States and the physicians of Illinois have suffered thereby.

---

#### TYPHOID FEVER AT TUSCOLA.

---

##### THE OLD STORY OF THE FAVORITE WELL AND ITS WATER OF "FINE MINERAL FLAVOR."

---

On May 25, at the request of the local board of health, the State Board of Health undertook an investigation to determine the cause of an outbreak of typhoid fever at Tuscola. Fifteen cases of the disease had been reported.

Investigation developed the fact that the milk supply came from eight different sources; that no large numbers of persons had taken food which could be regarded as under suspicion; that wells were used by most of the people as a source of water supply and that the municipal water supply was so bad that it was used by practically no one for drinking purposes. It was also found, by June 17, that there was a record of seventy-five cases of typhoid fever in this prosperous little city of 2,400, with twelve cases in the county outside of the city. Finally, it was found that the popular well of the city was located in a livery stable. The water from this well was used by one of the leading hotels, by several merchants in the manufacture of their soda water and by a large number of business houses and private homes.

While the well was surrounded by concrete, it was found that there were several channels through the

ground opening into the well and that the walls of the well were defective. The well was situated ten feet from the street line and in the street was a public sewer made with uncemented joints. The water from the well was found to be badly contaminated.

As a result of this epidemic of typhoid fever, Tuscola immediately employed a full-time health officer, recommended by the State Board of Health, at a salary of \$200 per month; declared all privy vaults not flyproof to be nuisances and prepared to rigidly enforce the rules of the State Board of Health.

---

#### HEALTH OFFICERS WANTED.

It not infrequently happens that the State Board of Health is asked to recommend a competent physician to fill the position of health officer in cities of from 3,000 to 50,000 population. The Board desires to be in a position to meet this demand in the best possible way, and, for this purpose, is developing a list of eligibles from which recommendations will be made, *merit being the sole determining factor in the selection.*

Licensed physicians of Illinois who are qualified by training and experience to fill the position of municipal health officer and who desire to file their applications for such appointments, can secure necessary application blanks on request addressed to Dr. C. St. Clair Drake, Secretary and Executive Officer, Illinois State Board of Health, Springfield, Illinois.

At the present time there is an opening for a properly qualified health officer in a high class community of 6,500 inhabitants. The physician accepting this appointment will be required to perform the usual duties of health officer, including school inspection, and in addition, will act as township physician, in which capacity he will be called upon to render such medical and surgical attention as shall be required by the indigent sick within the town and by all persons confined in the county jail. He shall give his whole time to the service and shall not engage in private practice. The compensation provided is \$1,800 per annum.

---

In addition to the sanitary service sended by the State Board of Health, the Board also supplied vaccines for the immunization of the troops against typhoid fever and smallpox, together with tetanus antitoxin, Schick test outfits, culture outfits and various other agents which might be needed pending the arrival of supplies from Washington. During the past two years the Board has been supplying all of the Illinois regiments with typhoid vaccine and, as a result, a large percentage of the older recruits were already immunized prior to their arrival at Springfield.

Daily inspections were made of both of the mobilization camps during the time the troops were in Springfield by the Secretary of the State Board of Health, the Sanitary Engineer of the Board and Surgeon General Frank and Major Buell Rogers.

The health of the troops was perfect when they left Springfield for the Mexican border.

## STATE TROOPS MOBILIZED WITH DUE REGARD TO "HEALTH SAFETY FIRST."

STATE BOARD OF HEALTH AND MILITARY AUTHORITIES  
COOPERATE TO PROTECT HEALTH OF TROOPS.

On June 18, orders were issued to mobilize a large part of the Illinois National Guard at Springfield and it became necessary to provide suitable quarters for a force of ten thousand men. Camp Lincoln, the permanent camping ground of the State militia, afforded sufficient quarters for but two thousand of this number and it became necessary to prepare the State fair grounds for the reception of the remaining seven thousand five hundred.

In transmitting the order to mobilize the troops to Adjutant General Dickson, the first thought of Governor Dunne was for the safety of the troops and the Secretary of the State Board of Health was directed by the Governor to make an exhaustive survey of both camp sites, to pass upon their present sanitary status and their proposed sanitary installations and to report to the Adjutant General, making such recommendations as proper regard for the health of the troops might indicate.

During the first inspection, in which the Secretary of the Board was accompanied by the Chief Engineer of the newly created Bureau of Sanitary Engineering, several suggestions were made recommending changes in the location of latrines and their further removal from close proximity to sleeping quarters and kitchens. Upon the completion of this inspection, a report was promptly submitted to the Governor and to the Adjutant General embracing the following general points:

The State Fair Grounds were commended as a camp on account of the generally good drainage and availability of good shelter; but attention was drawn to the limited space making proper distribution of latrines, sleeping quarters and kitchen and mess space difficult.

It was recommended that all wells on the Fair Grounds be abandoned and that the troops use only the water from the municipal supply, which is available in most parts of the grounds. While the Springfield water supply is generally safe, it was recommended that frequent water analyses be made.

It was advised that the buildings having paved floors be flushed with fire hose and thoroughly scrubbed. Several of the buildings, however, have dirt floors and attention was called to the fact that, when occupied by large numbers of men, dust would arise which would be a source of great discomfort, if not a definite source of danger. On account of the limited time, it was suggested that these floors be sprinkled with a five per cent. solution of common salt and that oil, in several thin coats, be applied later. To overcome the inconvenience of the oil, it was advised that fine, clean sand be spread lightly over the floors.

In the handling of food, it was recommended that all kitchens and mess tents be screened against flies. As some of the mess quarters could not be screened, it was advised that all food be covered and that

fly traps be supplied. Rigid examination of all persons handling food was urged, especially for the purpose of detecting typhoid carriers and rigid supervision to secure personal cleanliness of all cooks and assistants was recommended.

Attention was called to the fact that latrines must necessarily be relatively close to sleeping and food tents in the limited quarters available and it was urged that the latrines be made absolutely fly proof; that they be supplied with seats which would close automatically and that the pits be kept absolutely dark. It was further recommended that the pits of the latrines be strewn each morning with straw and oil and the contents burned and that powdered slaked lime be used freely. Attention was also called to the fact that, however perfect the sanitary installations might be, proper results cannot be obtained unless they are properly handled and cared for.

It was recommended that all manure be burned daily and that modern methods of incineration of garbage be employed.

In reporting upon Camp Lincoln, attention was called to the low-lying land nearby and to the close proximity of Spring Creek, which is, in reality, an open sewer from the City of Springfield. It was insisted that all soldiers be strictly forbidden the use of water from Spring Creek for any purpose and that all marshy land be oiled to prevent mosquitoes.

It was recommended that the permanent latrines at Camp Lincoln be put in a good state of repair and that the outflow be carried in pipes to Spring Creek. Attention was also called to the need for good lighting of latrines as an incentive to cleanliness.

\* \* \* \* \*

When the mobilization order was issued, it was expected troops should begin to arrive on the evening of June 20 and that all regiments should be in camp by the evening of June 22. On account of heavy rains and the difficulty in obtaining a sufficient number of carpenters on short notice to complete the sanitary installations at Camp Dunne (the State Fair Grounds), recommendation was made by the Secretary of the State Board of Health, and the Surgeon General, that the arrival of troops be delayed and the Adjutant General, with the approval of Governor Dunne, issued orders delaying mobilization at Camp Dunne for a period of forty-eight hours. Later it was found necessary to issue another order delaying the arrival of three regiments for twenty-four hours.

In approving these delays in mobilization, Governor Dunne remarked, "I recognize that I am preventing a record for rapid mobilization, but as I regard sanitary preparedness the first essential to a safe and successful mobilization, I shall not hesitate in this act sacrificing a speed record to attain what is more important, a health record."

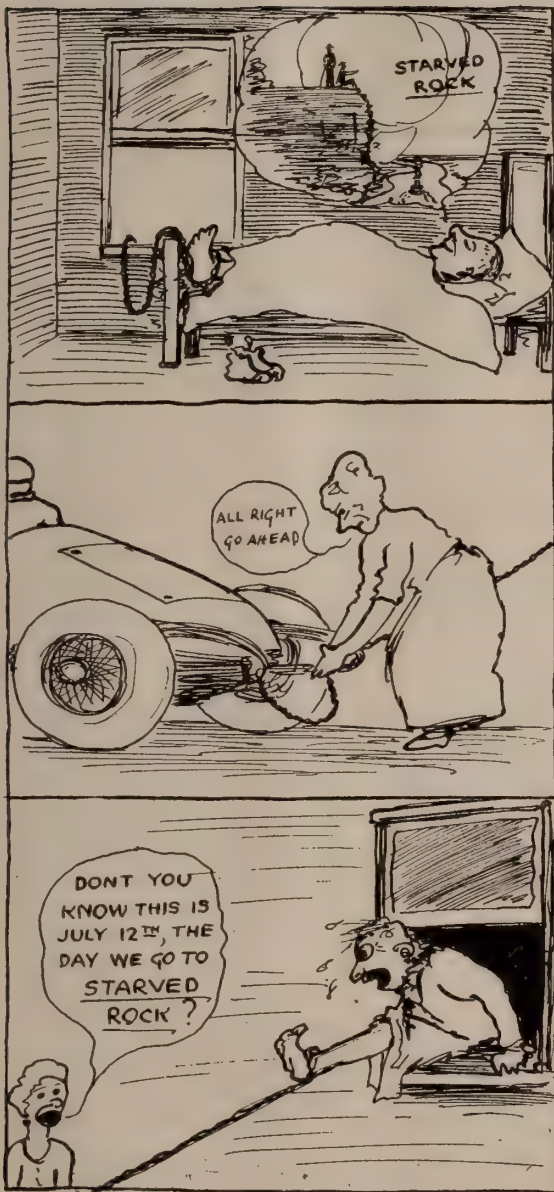
---

Money is a good servant but a dangerous master.

---

If you live always with those who are lame, you will yourself learn to limp.





For railroad timetable see page 25.

## Will your wife have to do this?

Don't forget to wind your **BIG BEN** Tuesday night, July 11, so as to avoid this irritating occurrence.

## Starved Rock

is the place. That historical romantic spot in the picturesque valley of the Illinois. An 8 mile river trip and two days of enjoyment at the most wonderful scenery in our Golden State. Every member of the

## Illinois State Medical Society

should be on the job.  
**PLAN AHEAD** to be away  
**Wednesday and Thursday**  
**JULY 12-13**

An event you'll remember long afterward—  
**Turn Now** to page 53  
and advertising page  
8 for all the particulars.

**Fill  
This  
Out**



**STARVED ROCK OUTING**  
To Dr. E. W. WEIS - Ottawa, Ill.  
Count on me for July 12-13.  
NAME.....  
ADDRESS.....

## Auto Sparks and Kicks

### FUEL ECONOMIZER.

Apart from kerosene carburetors, there is another way in which manufacturers can save the ultimate owner of their car a good number of dollars, and this is by making a regular practice of fitting an additional air supply controlled from the steering wheel or steering post. An adequate supply of additional air when used intelligently can increase the miles per gallon nearly 25 per cent. on the majority of automobiles. It requires intelligent manipulation of the control, but such handling is not difficult to learn and the accomplishment is very well within the power of any man possessed of normal brain power.—*Automobile*.

### WHAT OF THE FOUR?

A year ago when the six versus eight argument was at its height, when the twelve was about to make its bow to the public and cylinders were the main topic of engineering conversation, there were many who expressed the view that all the discussion would serve to draw attention to the advantages of the four. The highly successful meeting of the Metropolitan section of the S. A. E. last week, at which the future of the four was the topic of the evening, proves that interest in the four is reawakening.

It means something more than the swing of the pendulum. Probably it marks the first step in the commencement of the endeavor to reduce the cost of operating an automobile, which appears to be one of the most important problems now facing engineers.

It is agreed that the demand for large, heavy cars will be limited in the future, and that the highly efficient, light machine is the coming type. Such a car may prove to be most easily made with any number of cylinders, but undoubtedly the four shows to better advantage as the total size of the engine is reduced.

There is a very general feeling that a small four with the highest possible class of internal and external finish would command a good price and sell in considerable quantities. It may be either right or wrong, but while it lasts interest in the four will continue.—*The Automobile*.

### MIXING GASOLENE AND KEROSENE.

Editor *The Automobile*.—What is the real objection to mixing gasoline and kerosene as a fuel for motor cars? Of course, I have heard of such use of it now and then, but why is it not generally so used especially since the price of gasoline has advanced so rapidly? I have a Chalmers six-cylinder and would you suppose that such a mixture as half and half would work satisfactorily?

Somerville, Mass.

C. E. P.

—As a matter of fact unless you are quite fortunate you are using a mixture of kerosene and gasoline as a matter of practice in your car. It is one of the methods used to dispose of the great surplus quantities of kerosene now on hand. The action of the mixture is just what may be expected from a heavy grade of fuel. A mixture of half-and-half in your Chalmers would probably work quite well after the engine had once become warm.

### REMOVING SCALE FROM RADIATOR.

Editor *The Automobile*: Please give complete directions for removing scale and other deposits from the radiator of an automobile.

E. T. P.

Scale can be removed from radiators by using a saturated solution of common washing soda and water. Thoroughly flush the radiator out with the solution, then clean with fresh, pure water. A mixture of ordinary washing soda in which 4 ounces is used to the gallon of water, will do the work properly.

### FRONT WHEELS AFFECT CONDITION OF TIRES.

Cars running with their front wheels out of true will cause tire trouble. Too much play in the axle-end bearings, too great a freedom in the steering joints or possibly a bent spindle or axle-end, invariably exacts the penalty. Brakes, when out of order, damage tires. For example, if only one of the back wheels locks when applying the brakes, the tire on the slipping wheel will surely be injured.

Another kind of tire-trouble arises from weakened springs. Every time the car jolts badly the upper part of the tire rubs against the mudguard and as a result the casing is damaged.



## Society Proceedings

### COOK COUNTY CHICAGO MEDICAL SOCIETY

*Regular Meeting, June 7, 1916.*

1. The Mechanics of Production of Certain Fractures, Emmet Rixford, San Francisco, Calif. Illustrated by lantern slides.

2. Spiral Fractures of the Tibia, Charles Davison.  
Discussion: Wm. Hessert, H. B. Thomas, Wm. Cubbins.

### CHICAGO OPHTHALMOLOGICAL SOCIETY

*Meeting of Feb. 14, 1916—Continued.*

#### CYST OF THE IRIS.

Dr. Suker looked the case over and with his large experience cleared up as many points as I, in my limited experience, was unable to decide. He called it an autogenous implantation cyst of the iris caused by proliferation or growth of the iris. But this is monolocular and the anterior cyst seems clear. Some of the flocculent material in the cyst is clear down to the bottom of the cyst, forming a more dense picture. The entire iris can be seen through the cyst. The lens is uninjured except when it is distorted, causing optic disc; and the retina has assumed the picture of an astigmatic eye. The vitreous is also clear.

The question is what to do in a case like this. Dr. Suker suggested that the first thing to do would be to aspirate the cyst, and after to do an iridectomy to see whether or not we are right.

#### DISCUSSION.

Dr. Oscar Dodd recalled a case he had some years ago of punctured wound of the cornea, but in this case there was a traumatic cataract. Within a few months after the removal of the cataract a cyst developed, the man disappeared from view and returned subsequently because of pain in the eye, due to tension. On examination there were multilocular cysts filling over one-half of the anterior chamber. After removing the cyst he made an incision and removed as much of the cyst wall as he could. The eye quieted down and for several years gave no further trouble.

Such cases were not very common. One such case was reported by Weeks before the American Ophthalmological Society, with good drawings of the case, the report having been published in Knapp's Archives.

Dr. George F. Suker read a paper on "Classification of the Various Types of Inflammation of the Orbital and Cranial Portions of the Optic Nerve From the Clinical Pathological Standpoint."—*Paul Guilford, Secretary.*

### CHICAGO OPHTHALMOLOGICAL SOCIETY.

A regular meeting was held March 20, 1916, with the president, Dr. William E. Gamble, in the Chair.

#### THE VALUE OF THE ACCURATE LOCALIZATION OF FOREIGN BODIES IN THE ORBIT.

Dr. C. C. Clement reported cases and emphasized the following points in recapitulation: Radiographic localization is the only accurate method of localization which we now possess. It is dependable when

performed by competent men. It furnishes valuable information in determining whether or not the steel is within the globe. It gives information which we must possess before we can make an intelligent choice of operations for its removal. In case the corneal route is chosen, it modifies the Haab operation in such a way as to lessen the probability of doing violence to the lens. If the scleral route is chosen, it usually eliminates the necessity of introducing the tip of the magnet into the vitreous, an act which should always be avoided, if possible. From a medico-legal point of view, it furnishes a positive record of great value.

#### INJURIES TO THE EYE FROM BROKEN SPECTACLE AND EYEGGLASS LENSES.

Dr. Frederick B. Vreeland, after reviewing the literature very thoroughly, stated that the most significant conclusion to be drawn from the number of cases reported in the literature are:

1. That in proportion to the entire practice of 102 ophthalmologists, serious injuries to the ocular apparatus from broken lenses were very rare.

2. That rimless spectacles were won in the greater percentage of injuries reported would indicate them to be less safe than other styles of glasses. This result is attributable to the fact that spectacles occupy a fixed position and the rimless lens is more easily shattered. In the case of nose glasses which are more easily knocked off the face, the chances of the eye being lacerated are less.

3. In most of the injuries reported the presence of minus lenses is noted. This is doubtless due to the fact that the centers of many minus lenses are not only so thin that they are often punctured by the ordinary force of cleaning, but also because they form a cutting edge so to speak with the sharp edges immediately in front of the pupil. The opposite is true of convex lenses, as they afford a rounded surface, a greater degree of thickness of center, and altogether tend to deflect a flying object.

4. That glasses are a protective element rather than a menace is clearly shown by these reports, although the refraction has an important bearing upon that question.

5. It is well recognized that injuries do occur in which the glass, no doubt, adds to their severity because of its lacerating nature, but it is demonstrated that the advantages of glasses far outweigh this remote risk of added injury, and when you consider the nature of the force that usually causes these accidents, we can be reasonably sure that the eyeball would have suffered severe injury even though the glass had not been present.

6. That the eyeball can be severely injured in the form of trauma with comparatively small loss of function seems to be due to the aseptic properties of the glass.

7. The consensus of opinion that this accident occurs oftener in men than in women is perhaps due to the fact that men are exceptionally exposed to this

kind of accident, in various forms of industry and while taking part in various sports.

8. Some surgeons have expressed the belief that this kind of accident almost always occurs in industrial pursuits; the reports received, however, show that the injury is often a household accident, or a result of athletic games.

### DISCUSSION.

Dr. Willis O. Nance said that the localization of foreign bodies in the vitreous is one of great practical importance to every ophthalmologist. He asked as a matter of information in what percentage of cases met with clinically did the foreign body lodge in the orbit. These cases are not very common.

Dr. Nance happened to be studying in Europe when the discovery of radiography was made. When he returned to Chicago he had a radiograph taken from the temporal side of a case of foreign body in the eye. It was one of the first of this character taken in Chicago, he thought. He reported the case with a cut of the radiograph in the *Chicago Clinic*. Since that time he has had many cases of foreign bodies in the eye, having done the work for one of the large railroads for a number of years and also several other corporations. He was more and more impressed with the importance of having localizations passed upon by an expert radiographer. During the last few years he has in the main relied upon one radiographer in Chicago to a very large extent—Dr. Potter—and has found his results very satisfactory.

After locating the foreign body the question was how it should be removed, whether by the scleral route or through the cornea. This depends upon the point of entrance and to a great extent upon the size of the foreign body. It is usually a mistake to attempt to draw a large body through the eye. He had found by experience that the ultimate result secured in injuries of this kind depended upon the size of the foreign body. With a large foreign body in the vitreous, in his experience there is not much chance of getting a very satisfactory result. If the foreign body is small, the prognosis is usually good. He recalled the case of a man from a neighboring state who received a foreign body, which passed through the cornea, through the lens and lodged in the vitreous. It was removed by the anterior route and the patient recovered with 20/20 vision. The result was unusually good. He saw the man three or four years after the foreign body was removed and his vision was still 20/20. There was a very small opacity in the lens.

Referring to the care that one should take in preserving foreign bodies removed from the eye, especially if they are small, Dr. Nance stated that twelve years ago he removed a small foreign body from the vitreous of a man living in an adjoining state. He made a report of the case at this time to the parties who were interested and retained a copy of the record. Two or three months ago he received a letter from an attorney who was connected with the corporation for which the man worked, calling attention to the fact that the case had not been settled and wanted to know if Dr. Nance could appear as a witness, and, if possible, to bring the foreign body with him as evidence. They quoted from the report which Dr. Nance made at the time and which he found on record in his office. When he looked for the particular specimen he was unable to find it. He had been in the habit of placing these specimens in small vials in which there was some cotton. He placed the foreign body next to the glass, so that it could be readily seen, marked the specimen and put it away. When he opened the drawer that contained quite a number of specimens he found in the vial supposed to contain this particular foreign body only a discoloration of the cotton. Evidently the foreign body, through the process of oxidation, had quite disappeared. He then looked over other specimens and found one in the same condition. He took out the cotton and instead of finding the foreign body, found fine dust. Experience had taught

him a better way of preserving these foreign bodies, namely, placing the foreign body on a card and covering it with glue or some other similar substance to protect it from the air.

Dr. John R. Hoffman agreed with Dr. Nance that in cases of foreign bodies of large size in the eye we do not need to pay much attention to their location and method of their removal, because their large size indicates the location and the easiest route of removal; but for small bodies (steel or iron) from his experience of sixteen years with the use of the giant magnet, he believes that most of them go through the cornea and crystalline lens, which is opaque or beginning to opacify, when the patient presents himself.

The great majority of these foreign bodies can be removed through the corneal route by the classical operation of Haab without further damage to the lens and less injury to the structures in the posterior segment of the eyeball, the magnet here acting as a sideroscope and at the same time as the means of removal of the foreign body.

Occasionally cases present themselves in which there was no response to the giant magnet, because of the length of time elapsing between the injury and attempted removal, the foreign body having become encysted or imbedded in some other way, making response to magnetism impossible, and those cases are the cases that certainly call for localization.

A few days ago he saw such a case in which a piece of steel penetrated the eye through the upper border of the cornea through the lens and on back into the posterior segment somewhere. He tried to remove it through the corneal route, but there was no response to the magnet. He then tried to locate it back of the ciliary body, but there was still no response. The patient was sent to Dr. Wells, who localized the foreign body at about the junction of the posterior and middle third 21 mm. back of the center of the cornea in the median line and sent Dr. Hoffman word that if he would cut down on it at that point he would get it. The eye was cocainized, but as a direct line would mean going through the superior rectus muscle, the incision was made about 3 mm. to one side and a little anterior to the point of localization, thinking that the magnet surely would pull the steel into the wound. After several applications of the giant and hand magnet, the attempt at removal had to be given up.

The patient was again sent to Dr. Wells, who relocated the foreign body forward in the root of the ciliary body and still in the median line. The incision made the day before being within a few mm. of this location, the tip of the large magnet was inserted under the sclera to the point of location and the small chip of steel was extracted from the location (last) in which Dr. Wells said it was.

This case shows the value of localization of chips of steel in the eye where the magnet had failed in a previous operation in an injury where the cornea and lens had been penetrated, though the anterior chamber route was clearly indicated. He believes, however, that where the foreign body has entered back of the ciliary body or when the foreign body had been in the eye for several days or longer, accurate localization should be done so as to indicate the shortest route for its removal.

Dr. George T. Jordan emphasized the value of localization by reporting the following case:

A boilermaker, while at work, had something fly into his eye, causing a severe wound. In less than two hours he saw the patient and by means of the giant magnet pulled a large piece of metal through the wound.

The case pursued the ordinary course and in due time was discharged, having light perception and production. In about thirteen months the patient suddenly presented himself with a marked sympathetic ophthalmia. The offending eye was immediately removed, with the surprising result that the sympathetic ophthalmia cleared up, which brought about doubt as to its being a true sympathetic ophthalmia.

The patient's general health was most thoroughly investigated by a competent internist and nothing was found which could cause the trouble.

When the eye, which was removed, was mounted, blocked and cut into, something was struck with the knife, which



was found to be a piece of rust broken off from the large portion of metal removed at the time of injury. This, no doubt, was the cause of the sympathetic ophthalmia.

Since that time Dr. Jordan has had radiographs taken, both before and after removal of foreign bodies from the eye.

Dr. William A. Fisher exhibited a beautiful drawing that Dr. Wells had made for him, which showed a large foreign body about one-half inch behind the external coats of the eye and there was no hope of getting it out. He could not understand how anyone could expect with the magnet placed in front of the eye to draw a foreign body up through the opening in the back part, as the eye would change its position and prevent this foreign body from coming through.

He agreed with Dr. Hoffman that most foreign bodies go through the lens, and if the lens is injured the method of bringing the foreign body through the lens is best.

Some time ago he reported to this society 150 cases of foreign bodies in the eye, in which he took the position then that the magnet should be used first, and if one was not able to find the steel, an X-ray should be taken. If the foreign body goes through the lens, the best way to get it out is through the lens. If it does not injure the lens and makes a large opening in the sclera, the proper thing to do is to put the magnet in the large opening and bring the object through the original opening or make the opening larger. In this case he used the magnet, as he always does, before taking a radiograph, because if the foreign body goes through the lens or back of it, he sees every reason for using the magnet before taking a radiograph. In this case the foreign body has passed through the sclera on into the eye and out through the sclera into the tissues and cannot be removed unless the eye is removed. It is to be hoped the metal will be encapsulated.

Dr. Hal P. Wells discussed the subject from two standpoints, namely, the accuracy of present methods of localizing foreign bodies in the eye or orbit, and, secondly, the limitations, if any there be, of the X-ray in discovering certain substances which may be encountered in the arts and industries and which may be gotten into the eye.

The experience of the speaker in bringing him to his present views in these matters has covered a period of fifteen years, and he felt it rather difficult to adequately cover the discussion of even the salient points involved in the short time allotted to him.

Practically the entire range of foreign substances which may be encountered in the orbital cavity are divisible into two main classes.

First, the highly opaque metals, including steel, iron, copper, brass, lead and certain non-metallic substances and metallic oxides, such as crockery, stone, pyrites, anthracite coal, all of which may be considered practically of a class from the standpoint of opacity to the ray; in fact, they are all easily discovered.

Under the second group are considered less opaque substances, such as certain varieties of glass, aluminum, soft coal, wood and a few other substances rarely encountered.

Dr. W. M. Sweet of Philadelphia has stated that any substance whose physical properties cause it to cast a shadow under the X-ray may be shown in the eye.

This statement, the speaker thought, required considerable qualification, for it has been his own experience in working up the subject experimentally that the ability to show certain foreign bodies on a photographic plate depends upon the immediate environment of the substance which it is at tempted to show and not upon the thickness or variety of tissues through which the ray must pass in reaching the sensitized plate, and as illustrative of this physical fact pertaining to the X-ray and certain substances, the speaker mentioned his experimental work with bits of lead free glass. That is, glass containing no lead nor metallic oxides which would make them opaque.

In this experiment a very small particle of crown glass was cemented with collodion to the temporal region of a live subject, so that by lying on the plate the eye of the subject came directly in line with the piece of glass and the ray from the focal point of the target of the X-ray tube. Under

this condition the particle of glass was easily shown on all plates, with varying exposure and varying qualities of the X-ray light used.

The same particle of glass was then embedded in the vitreous of a sheep's eye, which was then placed in the orbital cavity of a skull. Under these conditions the piece of glass cast no shadow on the photographic plate unless the particle of glass was large; that is, measuring at least a millimeter and a half in thickness by several millimeters in breadth and length, small particles, such as used in the first experiment, being entirely lost.

The speaker mentioned that most of the glass used in the arts and industries, as well as much of the glass used for optical purposes, contained some ingredient, making it possible for even small particles to cast distinct shadows on the dry plate, most of the flint glass used containing lead oxide or barium or some other metallic oxide for the purpose of clearing or whitening the glass or to give it other desirable physical properties.

However, in spite of the difficulties attending certain of the substances which the speaker included in the second class, he believed that a further refined technic may still further eliminate the very few exceptions to the rule that practically all foreign substances in the eye may be unmistakably demonstrated as to size, number and position. Illustrative of the finer differentiations which the modern technic has made possible, a plate was exhibited, showing a very small wooden splinter deeply embedded in the tissues of the hand.

With reference to the use of the giant magnet, the speaker had seen many demonstrations of the unreliability of this instrument, both as a diagnostic and a therapeutic resource. He had seen a number of large pieces of steel in the eye, which gave no reaction to the magnet and one case in which the foreign body consisted of tool steel and was about four and a half millimeters in length by three millimeters in breadth and an average of a millimeter in thickness, which was located at the equator of the eyeball and which had made a large passage on entering the eye, gave no pain reaction whatever when the Haab magnet was applied. This particular case was referred to him with a negative diagnosis as to the presence of a foreign body, both the patient and the surgeon believing the wound in the cornea, iris and lens had been caused by a large body striking the eye and falling away without entering the globe, and the X-ray was resorted to merely as confirmatory of the negative diagnosis made with the magnet.

Dr. Wells then exhibited and demonstrated the Snook-Sweet apparatus for localizing foreign bodies and charting the localization in three dimensions.

He also showed a number of lantern slides and plates illustrative of his discussion.

Dr. C. C. Clement, in replying to the question of the percentage of the foreign bodies found in the orbit, said there was only 7 per cent. in one series of cases reported. Statistics on this point would probably be inaccurate unless one excluded all of the cases that had not been localized by the Sweet method of localization or some other method equally accurate. He does not believe anyone can tell where a piece of steel is located by looking at the plate. Both Dr. Potter and Dr. Wells say they are unable to do so.

As to the choice of method of removing a piece of steel, he quoted Dr. Casey Wood as having written to 150 surgeons and eliciting their opinion as to which method they preferred. Of those replying, more than one-half preferred the scleral route, and the majority of them were located in the east. Accurate localization was more generally practiced in the east before it was in the west and the fact that eastern men preferred this route was significant.

In reply to Dr. Fisher's question, plates were shown to answer it. It was desirable to know the size of a foreign body before attempting to extract it. One could not tell the size of it by the wound of entrance. The body might be long, round or square. A foreign body could get into the eye through a surprisingly small opening.

Dr. Willis O. Nance stated that in 1907 he reported a case of ocular injury by a broken spectacle lens and at that time looked upon the literature very carefully and was un-



able to find any cases that had been reported previously. The case was fully reported in the first volume of the *Journal of Ophthalmology and Otolaryngology*. Dr. Worthington also reported a case before the society. The speaker was struck at that time with the rarity of injuries of this kind in clinical experience.

At the Eye and Ear Infirmary, at that time, after ten years' experience in seeing many cases of ocular injury in that institution, this was the first case of injury by broken spectacle lens he had ever seen. Since then a number of cases had been reported. The late Dr. Beard had seen two or three such cases since this report was made. The speaker wondered if rimless glasses, both eyeglasses and spectacles, being worn much more commonly in the last eight or ten years, were not responsible for the number of more frequent occurrences of cases of this kind.

Dr. Fred W. Bailey, Cedar Rapids, Iowa, stated that in the last five or six years he had had four cases of injury to the eyeball with broken spectacle lenses. The first occurred about six years ago, the patient being a girl, eight years of age, whom he refracted and fitted for lenses. She had a slight degree of hyperopia and astigmatism plus, and two weeks afterwards she was brought back to him with the statement that a boy at school broke her glasses with a poker and injured the eye. She had a perforating wound of the cornea; three splinters of glass were taken out of the cornea, an iridectomy was done and the child got along all right, with normal vision, with added astigmatic correction.

The next case was a man, 35 years of age, who wore rimless spectacles and had a mild astigmatism. He was playing squash, the ball broke his glasses, cutting the sclera just outside of the external limbus of one of the eyes. This patient was sent to the University Hospital to have an X-ray examination made to see whether or not there was any foreign body in the eye, but there was none. The eye healed and is as good as ever.

The next case was an Englishman, 25 years of age, who, in playing ball, had his spectacles broken by his opponent. His glasses were rimless. He had 4° of myopia. The broken glass cut the cornea, which was followed by prolapse of the iris. An iridectomy was done and the man recovered with two-thirds vision as compared with the other eye, but he did not know how much vision he had before the injury.

The fourth case was that of a professor in the university, who, in adjusting the internal workings of his automobile, allowed a wrench to slip out of his hand, striking his eyeglasses, breaking the glass and cutting the cornea. He saw the patient within fifteen minutes after the injury. The iris was slightly caught in the wound. Under atropin the pupil was dilated, the eye attended to and after three or four days in the hospital patient got along without any trouble. He had also myopic astigmatism.

Dr. Major H. Worthington stated that shortly after Dr. Nance reported his case in 1907 he had one of injury to the cornea from a broken spectacle lens caused by a tennis ball. At the time he reported this case, through the kindness of the late Dr. Beard, he included in his report the case he had under treatment at the Eye and Ear Infirmary of a boy, who, in entering a darkened room, ran into a bedpost, breaking his spectacle lens and so badly lacerating his eye that after a few days it was necessary to enucleate the eye on account of sympathetic irritation having set in. The speaker had had since then two other cases of injury caused by broken spectacle lenses, one of superficial injury to the cornea and the other with laceration of the skin of the lid. These cases all occurred in individuals wearing spectacles.

He believes that cases of injury to the skin of the lid and cheek from broken spectacle lenses are more common than injuries to the eyeball itself.

## THE LINEAR METHOD OF CATARACT EXTRACTION; CASES SUITABLE FOR IT AND ITS ADVANTAGES.

Dr. William H. Wilder read a paper on this subject in which he stated that the linear method of cataract

extraction has a considerably wider field of application than is usually accorded to it. In the linear method of extraction the incision is a straight one, and for making such an incision no instrument is as good as a lance-shaped knife, such as a keratome. The incision need not, in most cases suited for the operation, be a long one, but to insure that it be long enough a wide keratome should be used, so that the cut may be eight to ten millimeters in length, if it is thought necessary, and the length can be obtained with one thrust of the blade.

The advantages of such a straight keratome incision are self-evident. The coaptation of the lips of the wound is more exact than when the incision is made with a narrow bladed knife with puncture, counter puncture and outward cut, and hence healing is more prompt. Again, with the short, straight incision the danger of gaping of the wound is less than with the long incision in the flap operation, and therefore the likelihood of postoperative complications is reduced.

Speaking broadly, this method is applicable for the extraction of any cataract that can be delivered through a straight cut in the cornea not longer than 10 or 12 millimeters. Of course, this precludes its use in senile cataract in which the nucleus is so large that it cannot be delivered through such a small opening. But up to the age of 35 or 40 years the nucleus of the lens is so small that it will readily escape through an opening of this size.

The author's own experience includes only one case of full-sized cataract in a person as old as 40 years treated by this method. In this connection, however, one should remember that the central portion of the lens becomes sclerosed at a younger period of life in some persons than in others, and given a case of 40 years one should be prepared to enlarge the incision if necessary, which could be done with a suitable pair of scissors. Specifically then, the method is applicable in the extraction of all soft cataracts, i. e., those in which a nucleus has not yet formed or is so small that it will readily escape through an opening made by a linear incision, not larger than 10 millimeters. This will include lamellar cataracts, juvenile cortical cataracts and capsulo-lenticular cataracts in young subjects, as well as any other form of soft or cured complete cataracts in young adults under the age of 30 or 35 years, whether occurring spontaneously or as the result of injury.

The author then described traumatic cataract, shrunken lenses, membranous cataracts, and described the technic in detail.

In summarizing the indications for and the advantages of this method, the author pointed out that it is the operation for extraction of soft cataracts in persons under the age of 35 years and even older. It is most satisfactory when preceded by a free discission of the capsule. It is the operation for traumatic cataract in persons not older than 40 years. It is an excellent method of operating on intractable, thick, membranous cataracts. The incision being comparatively short, straight and smoothly cut with a lance, healed



more quickly because of perfect coaptation and chance of infection is less. In many cases it is better to operate by this method for traumatic and needled cataracts than to wait for tedious absorption of lens substance and its attending changes.

#### DISCUSSION.

Dr. Thomas Faith said he could conceive of but two conditions of the eye in which he would attempt linear extraction; one was traumatic cataract and the other was following needling in a juvenile cataract. If one could tell when the lens was soft and when it was not, the extraction of cataract would be much easier than it is, but one often cannot tell when the lens is soft, even by the age of the patient. A small incision was a great advantage in that it could be closed readily, but when one attempted to deliver a lens that had not been injured or disintegrated, it was a temporizing measure. He had frequently employed linear extraction. Two days ago he resorted to it in a case of traumatic cataract of two weeks' standing. Through a linear incision and the use of a small curved director practically all matter was removed. He would not have the courage to attempt extraction of the complete lens at any age with the linear method. The extraction of capsular cataract was often accomplished by such an incision, but preferably by means of forceps. A keratome could be introduced and thrust through the capsule if it was not too tough. If it was too tough, it could be grasped with an ordinary iris forceps or straight forceps with a very fine shank, and either the entire capsule removed or a large rent made in it.

Dr. William A. Fisher asked Dr. Wilder what method he adopted in determining the kind of bacteria which prevented him from operating and whether he made smears or cultures.

Dr. George F. Suker said that, from a mechanical standpoint, it is more difficult to make an incision with a keratome than with a regular cataract knife; indeed, that is true of any angular knife. The line of incision is more under one's control with a straight than with an angular knife. It is exceedingly difficult to get a properly sharpened angular keratome and far less difficult to get a sharp cataract knife, both point and edge.

It has been his observation that a cataract knife is far safer in the majority of hands than an angular keratome. The puncture, counter puncture and cutting sweep of a cataract knife is easier to execute than the guiding and pressure-cutting of a keratome.

In his hands the cataract knife is the knife of choice for opening the anterior chamber for any intraocular operation, be this opening for an iridectomy or cataract extraction.

It is not always an easy matter to determine the size of the nucleus, not only in the mature senile cataract, but much more so in the traumatic and juvenile types. We ought not to arbitrarily set any age for the size of a nucleus, no matter what type of cataract is considered, though it is understood that the nucleus of a juvenile or traumatic cataract is less solid than in a mature cataract.

Therefore, a larger corneal section is far better than one too small, which must be enlarged by scissors.

Dr. Wilder's remarks concerning the rapid management of juvenile and traumatic cataracts are in accordance with good surgical principles and he has followed this selfsame procedure for years in like cases. We ought not to be too hypocritical about getting non-serrated corneal incision in our cataract operations; certainly ragged incisions are to be deprecated. Even a keratome will give a serrated incision; to avoid serrations with a cataract knife, a long sweep and a persistent and accurate following up of the sweep will avoid serrations, i. e., the knife must not be allowed to lag, as it were, but once the cutting is started, it is to be finished with as few strokes as possible.

When the iris is in contact with the cornea and the lens must be removed, there is no surgical contraindication for not passing the cataract knife directly through the substance of the iris in making the corneal section. Though this is not a desirable condition to contend with, yet it is not an insurmountable one.

Dr. Wilder, in replying to Dr. Fisher, said the method he had always used was to make a smear, inoculate probably two tubes, use blood-agar and then make cultures.

#### KERATITIS PETRIFICANS.

Dr. Harry S. Gradle reported a case of keratitis petrificans for Dr. H. B. Young and exhibited the patient.

Dr. George F. Suker reported the following cases:

#### 1. A CASE OF SELLA TURCICA DECOMPRESSION WITH REMARKABLE RESULTS.

Mr. W., aged 58 years, in 1911, had intense basal headaches, associated with more or less vertigo, no nausea or vomiting. He had more or less mental symptoms, such as forgetfulness and lassitude, lack of concentration and irritability. His vision began to fail rather rapidly, and as he expressed it was unable to read "Across the newspapers" only by shifting the page could he read the lines properly. Within six months or so, vision was reduced to faint light perception in the right eye and complete amaurosis in the left. About this time the left eye began to diverge some. The case was diagnosed as optic atrophy, secondary type. He remained in this condition until February, 1916, when he (through the courtesy of Dr. Crass) consulted me.

A complete physical examination (both laboratory and clinical) failed to reveal any lesion. He only had faint light perception in the right eye, limited to the papillo macular area, no color perception, no Wernicke pupil, but individual proprietary reaction to light and accommodation.

An x-ray picture, of the pituitary region, showed an enlarged sella with a very suspicious neighborhood (x-ray taken by Drs. Hartung and Hubeny). Upon the strength of the x-ray findings a transphenoidal sellar decompression, under local anesthesia, was made by Dr. Otto J. Stein, uneventful recovery.

Within twenty-four hours after decompression intense photophobia and lachrymation. Within forty-eight hours after, he began to recognize more light and had distinct form perception, counted fingers rather accurately at a few inches. As yet, no color perception. Improvement only in right eye, left remained the same, amaurotic.

From now on improvement was rapid so that at the present time he can with a plus 5.00 in the right eye read at 14 inches 6/6 type; has almost complete color perception, and his field for form almost approaches the normal. He first began to recognize blue, then green and lastly red. He goes about unattended.

Each nerve head shows distinct evidences of having been choked, followed by a secondary optic neuritis, this in turn by an amount of atrophy.

No tumor mass or pituitary body was removed, but a large decompression was made. The decompression was only in the nature of an exploratory operation. A more radical operation is under contemplation. Further report later.

## 2. A CASE OF MULTIPLE SCLEROSIS WITH OPTIC ATROPHY AND ECTOPICALLY PLACED LEASHES OF OPAQUE NERVE FIBERS, IN THE SAME EYE.

Mr. X., aged 50, a distinct case of multiple sclerosis, an optic atrophy in the left eye which can hardly be differentiated from a primary atrophy, showing that the nodules of sclerosis are situated almost at the entrance of the left nerve into the chiasm. In this same eye, towards the nasal side of the disc are two islands of opaque nerve fibers separated by an area of normal retina between themselves and the optic nerve. No opaque fibers at disc in any quadrant, vision 20/20. No improvement with any correction.

(This case is from the Cook County Hospital Service.—*Paul Guilford, Secretary.*)

## THE CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

Regular meeting, held February 29, 1916, with the president, Dr. Otis H. Maclay, in the chair.

## HISTOLOGICAL SPECIMEN OF TUMOR REMOVED FROM LARYNX, TOGETHER WITH REMARKS ON DIRECT AND INDIRECT LARYNGOSCOPY.

Dr. Norval H. Pierce said that the patient from whom this growth was removed came to the Illinois Eye and Ear Infirmary complaining of hoarseness. There was no pain. A diagnosis of tumor of the larynx was made, situated on the left vocal cord, very close to the anterior commissure. Because of its situation and the thick, short neck of the patient, it was impossible to see the tumor, even with the most recent type of apparatus for direct laryngoscopy. In contradistinction to this it was very brilliantly demonstrated that indirect laryngoscopy, in this particular case, was much to be preferred. The tumor was very easily removed on the first serious attempt and there has been no recurrence. Histologically it proved to be a fibrolipoma.

## SUPPURATIVE MENINGITIS, PROBABLY OF SYPHILITIC ORIGIN.

Male, laborer, aged 50; no tuberculosis or cancer in family history. Chancre fifteen years ago, but no secondary signs of syphilis developed. Measles at seven, followed by corneal ulcer; also corneal ulcer (right) four years ago. No other illnesses. Present complaint began last April with pain behind right ear, accompanied by discharge. In August the ear again became painful. The tympanic membrane apparently ruptured and discharged pus for several days. In September he began to have headaches and in November quit work. He had attacks of dizziness at short intervals. From December 15 to 21 he had frequent attacks of dizziness and headache, accompanied by loss of appetite and also loss of weight. On entering the clinic, December 13, he complained of light headache and pain in the right ear. Paracentesis was performed. Another paracentesis was

performed, which was followed by a slight purulent discharge, which stopped by February 4. He was then sent home, but returned complaining of headache and dizziness. At this time examination of the right ear showed profuse purulent discharge; left, chronic catarrhal otitis media. On January 29: White blood count, 12,300; hemoglobin, 80 per cent; albumin in urine; no sugar or casts. Hearing tests: Right ear, voice not heard; osseous and aerial conduction not heard. Left ear, whisper, fourteen feet; osseous conduction of a "a" of five seconds; aerial conduction, fifteen seconds. Low limit for left ear, G. Weber test, to left, fifteen seconds. Nystagmus marked to left. Rotation: Eight seconds nystagmus from diseased ear and thirty seconds from left side. Cold irrigation of left, nystagmus to right on looking ahead. Pointing test showed deviation to left. No response to cold or heat in right ear. February 2, 1916: Complained of severe pain in occiput and neck. Very dizzy. Cerebration low. White blood corpuscles, 6,400. February 3, 1916: Wassermann negative. Urine showed albumin; 2 per cent sugar; casts absent. Iodide of potassium was given at this time, which was continued practically up to the time of death. Chest and abdomen negative. Blood pressure, systolic, 140; diastolic, 70. Temperature, 100 degrees; in morning, 99 degrees. At no time was it above 100 degrees. Cerebration still low.

Reflexes: Pupils reacted to light and accommodation slowly. Knee jerks weak. Babinski negative. Muscular strength slightly reduced on left side. Fundus examination unsatisfactory because of corneal opacity.

All operative procedures were refused by the patient's relatives, but lumbar puncture was made on February 5. Fluid under pressure. The opalescent spinal fluid showed albumin, 2.2 per cent. White blood cells, 787 per cubic millimeter. Bacteriological content not reported.

February 6: Slight stiffness of the neck. Slight Kernig on both sides. Marked spontaneous nystagmus to both sides—horizontal and slightly rotator. Condition unchanged on February 8. Patient went into deep coma and died on the 9th at 4 a. m.

Autopsy showed a very interesting temporal bone. A large mass of tissue, having the consistency of rubber, entirely occupied the jugular bulb. Its character could not be determined without microscopical examination. Its appearance suggested that it might be an old organized clot. There were no symptoms of sepsis at any time while under the speaker's observation. It might be an organized gumma, but there were no symptoms of interference with cerebral circulation, when he was first seen, at least, and one would expect that to be present if it were a gumma. Unfortunately, the cochlea was sawed through at autopsy, but it showed nothing microscopically except that it was pretty well filled up with rather a homogeneous material, which probably resulted from the suppurative labyrinthitis. The temporal bone was perforated on its roof, which again suggested syphilis, as the perforation went right



straight through the upper portion of the bone into the sigmoid groove, whereas the perforation of the mastoid was posterior. The lateral sinus contained no clot. There was fluid blood in it, which again interfered with almost any theory one might have regarding the growth in the jugular bulb. The patient had none of the classical symptoms of a meningitis, and, in fact, the diagnosis made at the time before death was that of some cerebral complication. The brain shows very beautifully the manner in which the pus traveled along the arachnoid spaces and also how impossible it is to drain a suppurative meningitis. (Dr. Pierce showed the specimen.)

#### DISCUSSION.

Dr. George E. Shambaugh thought the second case permitted of some speculation as to diagnosis. It seemed quite unlikely that a patient could be examined, even in a superficial way, and a suppurative of the labyrinth overlooked—in fact, not even the suppurative otitis media recognized. As a matter of fact, it may be very easy to overlook a chronic suppurative otitis media with a fistula in the region of Shrapnell's membrane. Such cases often give no history of discharge, and all that one detects is a dry scab, which is not easily removed and might very readily be mistaken for a little flake of cerumen. It is only after dislodging this scab that the fistula can be discovered. It seemed extremely unlikely that a patient would develop the complication of suppurative labyrinthitis secondary to an otitis media, and not give very accurate symptoms pointing toward this lesion. The onset of a suppurative labyrinthitis is a tremendous shock to an individual, and is associated with very marked symptoms. In view of this fact, the speaker wondered whether the intracranial trouble in this case did not have its origin in syphilitic infection, as suggested by Dr. Pierce, and whether the otitis media, which was recognized the second time the patient was seen, was not an independent affair quite distinct from the fatal complication. The dead labyrinth has to be accounted for, but, as we all know, this is not such an uncommon occurrence, independent of any suppurative otitis media.

Dr. J. Holinger thought that the tumor presented by Dr. Pierce was a gumma. The rough bone also pointed to its syphilitic character.

Dr. George W. Boot did not agree with Dr. Holinger. It looked to him very much like an old organized thrombus in the jugular vein just below the bulb, because the process extended below the jugular bulb. The opening in the bone, aside from the perforation caused by the disease, was an anomaly. Syphilitic meningitis is not apt to be suppurative.

Dr. Joseph C. Beck was inclined to agree with Dr. Boot's diagnosis. He thought it was an old chronic suppuration. The patient being so long ill, his vitality would have been reduced to some extent, also his resistance, and there would be no possibility of a high blood count. He would like to know what the differential count showed. By making a Wassermann test of the spinal fluid we have a most definite diagnosis of malignant syphilis. That should be done for differential diagnosis. He thought the perforation in the temporal bone was probably due to an old organized thrombus in the jugular bulb.

Dr. J. R. Fletcher called attention to a break through the bony jugular bulb into the posterior fossa. He thought meningitis or cerebellar abscess should have developed at the time of the break, during the active period, if it was a thrombus.

Dr. Pierce, in closing, said that the condition, other than the meningitis, did not look to him like a simple inflammatory one. Orders had been left to make a Wassermann on the spinal fluid, but through some mistake it was not done. There was no tenderness or swelling over the mastoid to indicate active inflammation within it. He intends to investigate the fistula, which opened into the cranial cavity, investigate the interior of the mastoid, and find whether there was a suppurative process within it. His diagnosis, as to the ear disease, was syphilis, but, of course, this would not explain the whole picture. The man died, very clearly, of a frank,

well-defined, suppurative meningitis. But back of that there probably was a syphilitic process. Further data might be acquired when the labyrinth was sectioned. Dr. Shambaugh thought the diagnosis might have been made when the patient first came to the hospital. If he had had any labyrinthitis before, or had it at that time, the speaker was not prepared to say, but at least when he came to the hospital the first time it was in a quiescent state, so that there were no symptoms of it.

#### GIANT FORMATION IN LARYNX ACCOMPANYING HYPOPHYSEAL TROUBLE.

Dr. Joseph C. Beck presented a man, 65 years of age, who came to him with laryngeal difficulty, affecting both speech and breathing. A large mass, about the size of the speaker's thumb, was found, which was soft and fell into the larynx. During the last year the man's physiognomy has changed; the lips have become very large; the tongue also has become large, and his head and features have enlarged. X-ray examination showed definite destruction of the sella turcica. The man had hemianopsia in one eye. The other eye was blind, but this was due to smallpox scars on the cornea. The interesting point in the case was the occurrence of a laryngeal trouble in connection with hypophyseal disturbance. Such cases of giant formation in the larynx have not been described in the literature, so far as Dr. Beck knew. The patient had been suspended and the mass could be moved. It looked like a hypertrophy of the mucous membrane, with relaxation.

#### COMPLETE DESTRUCTION OF NOSE.

Dr. George W. Boot showed a case of destruction of the nose, septum and all the turbinates in a man who had received an injury several years ago and who had been treated for syphilis. The man attributed the loss of the nose to the treatment, but it was probably due to syphilis. A year ago he had a strongly positive Wassermann reaction. He refused to have a new nose made. Vision was all he wanted improved, but that was impossible. The interesting part of the case, aside from the destruction of the nose, was the manner in which the action of the soft palate could be seen when the patient spoke.

#### LUPUS OF THE NOSE.

This patient was a young man of sixteen years, of Italian parentage, but born in England. The trouble had lasted three years and he was treated by the Finsen light for nine months, he says, in a London hospital. Under this treatment the condition of the nose cleared up entirely. Then he came to this country a year and a half ago and the nasal trouble has recurred. The diagnosis of tertiary lues was made by one of the men in the dermatological clinic. The speaker's diagnosis was one of lupus. Wassermann reaction positive, 2 plus, but the boy denies any knowledge of venereal infection.

#### PROBABLE GUMMA OF FRONTAL SINUSES.

Dr. Robert Sonnenschein reported the case of a young man with luetic infection, who, in spite of

vigorous treatment, suffered from intense pains in the region of the frontal sinuses, particularly the right one, and especially at night. X-rays showed a peculiar, hard-to-explain circumscribed shadow in the extreme external portion of the right frontal sinus.

### SURGICAL ANATOMY OF THE FRONTAL SINUS, WITH DEMONSTRATION OF ANATOMICAL PREPARATIONS.

Dr. George E. Shambaugh pointed out that while the frontal sinus is the most exposed of all the nasal sinuses, it is the most inaccessible for treatment, since the intranasal route is most difficult and is the only one that it is permissible to use, except in rare cases, where the relief of severe pain cannot be accomplished by establishing drainage into the nose or where intracranial complication is threatened. In these cases only is the external operation permissible. He emphasized the marked anatomical variations existing in the different frontal sinuses. Preparations were demonstrated; showing an absence of the frontal sinus on one and on both sides. Specimens were shown illustrating an extension upwards of the frontal sinus almost to the roots of the hair, laterally beyond the outer angle of the eye and over the roof of the orbit. Interesting preparations showing partial bony partitions separating the sinus into several chambers were demonstrated. Specimens were shown demonstrating the variations in the relations of the nasofrontal duct to the floor of the sinus and to the cribriform plate. The nasal orifice of this duct is in one of two places, either in the anterior end of the infundibulum or lying to the mesial side of this structure. The ostium lies usually in front of the cribriform plate, but is sometimes located as far back as the middle of the cribriform. One relation is usually constant. The opening lies well back against the posterior wall of the frontal sinus. This relation does not permit of an enlargement of the sinus being made at the expense of the posterior wall, but it does permit, as a rule, of an enlargement being made at the expense of the anterior wall. One specimen was shown, in which there was only one opening into the nose, the frontal sinus on the opposite side draining through a perforation in the septum.

#### DISCUSSION.

Dr. Charles M. Robertson said that operation on the frontal sinus, by either external or internal method, should be determined by skiagraph. He agreed thoroughly with Dr. Shambaugh regarding the external operation. He has seen cases in which the ostium opened on the other side, for instance, the right frontal sinus had no opening on the right side of the nose, but on the left side, separately from the left frontal sinus. In nearly all of these cases a very small amount of drainage should be sufficient to cure the case, because if we have a small amount of cavity we have a small amount of pus, and if we have a small cavity, the cavity is filled very easily, and the pus forced down into the nasofrontal duct. Those are the cases that get well of themselves. The cases that do not resolve are those in which the frontal sinus is extensive, extending back over the orbit or out to the zygoma. At present, the internal operation is the one of selection. The matter of external operation with deformity has never frightened him as much as some others, because in doing it he has always left a broad bridge, in which the

deformity is absolutely at a minimum. Experience has taught him that very many of these ostia rather hug the cribriform plate, more than was indicated by Dr. Shambaugh. In fact, in nearly all the cases that he probes, the direction is more upward, forward and inward, than outward.

Dr. Otto T. Freer spoke of the frontal sinus as the foremost of the anterior ethmoid cells, which had invaded the substance of the frontal bone. That other ethmoid cells do the same is shown by the foveolae along the ethmoid notch of the frontal bone. He described the anatomical condition of projection forward of the olfactory fossa, so that it pushed forward the posterior wall of the frontal sinus in the form of a vertical projection into its cavity, this projection being called a "torus olfactorius" by Onodi. It is liable to operative penetration. The small frontal sinuses spoken of by Dr. Shambaugh are common, and found mostly in women with smooth foreheads without frontal eminences. In spite of their small size, their chronic suppuration may cause a good deal of trouble, especially caries of the floor of the sinus and anterior abscess of the orbit. Curettment of the mucous lining of the sinus should be avoided because the mucous membrane lining of the sinus is nearly always capable of recovery if good intranasal drainage and ventilation are established.

Dr. George W. Boot showed a specimen with a very large frontal sinus divided by numerous septa that were cut off in making the preparation. The one peculiarity of this sinus was that while most of the septa ran in an antero-posterior direction, there was still another running in a transverse direction, and behind it a large cell, in which he could place a hook.

Dr. Norval H. Pierce reported a case, of which he was reminded by one of the specimens. A young woman had an intranasal operation. The case was characterized by great pain for some length of time. The intranasal operation gave little or no relief, and then she was operated externally. The pain continued, but abated for some time, when she came to Dr. Pierce with a swelling over the left lateral orbital region, fluctuating temperature, and he advised external operation. The wound was enlarged, and he opened into an abscess cavity at the extreme outer portion of a frontal cavity that resembled the one shown by Dr. Shambaugh. The septum had not been removed in operating. The mesial portion of the cavity was quite normal, except that the internal wall was missing, leaving the dura exposed. The lateral portion was filled with granulations. After the septum was taken away and the granulation tissue curetted out, she made a favorable recovery.

### RELATION OF ORAL CAVITY TO NOSE, THROAT AND EAR.

(With Lantern Demonstration.)

Dr. T. E. Carmody of Denver, Colo. (by invitation) said that while the general surgeon and the internist are looking for the origin of diseases treated by them in remote parts of the body, and while many of these have been traced to the oral cavity, does it not behoove those who are working in the regions surrounding this cavity to examine it more closely for the origin of some obscure condition, which they are called upon to treat? A great deal of benefit could be derived by having a dentist associated with medical men on the staff of each hospital who knows the pathology of conditions found in the oral cavity; who knows how to make skiagraphs and interpret the same. Everyone is familiar with the toothache or pain in the jaw, which is frequently produced by impacted cerumen in the external auditory canal. The pain produced in the ear by ulcers on the tongue, abscessed condition in the region of the third molar or tonsil, the latter not always produced reflexly, but sometimes by direct pressure upon the Eustachian



tube. Reflex pain from the mouth may depend upon an increase in number of teeth or the displacement of one or more of the normal number. As regards the temporary set, there is very little variation in number, although two teeth occasionally may be found fused, or an extra tooth may occasionally be found. With the permanent set we are much more likely to find supernumerary teeth. Not infrequently a supernumerary tooth is found in the anterior portion of the hard palate, resembling a cuspid or lateral incisor. The conditions most frequently met are due either to decay of the teeth, inflammation of the surrounding tissue or abnormally placed teeth.

Dr. Carmody related a few cases to illustrate the interrelationship that exists between the oral cavity and the ear, nose and throat.

#### DISCUSSION.

Dr. J. R. Fletcher recalled two illustrative cases, one in which only pain in the throat was complained of, while the cause was a posterior superior molar abscess. The other was a fistula at the side of an upper middle incisor, in a woman who had had no teeth for years. Fistula seemed to come from antrum, but came, in fact, from the nose, around a full-sized middle incisor tooth, the root of which protruded well up through the nasal floor. He thought the paper very timely, emphasizing particularly how much we fail to see.

Dr. P. J. H. Farrell instanced a case where there was an impacted third molar that apparently was the cause of a neuralgia. After removal of this tooth the patient was entirely relieved for a period of three or four months, but later the condition returned. He has had several similar cases, and has come to believe that if a diagnosis of typical tic douloureux is made, the teeth may be eliminated as causative factors.

Dr. Joseph C. Beck said it has been his misfortune not to get the cooperation of dentists in doing this work. He believes it would be well for every number of men practicing together to have a dentist for their own cooperation. Another point he wished to make was with reference to X-rays. The films that are taken by dentists in order to show a clear picture of the absorption of bone in suppurative about apical infections do not assist him as much as does a dental picture which shows half the side of the face, thus showing the antrum and both jaws.

Dr. S. A. Friedberg asked Dr. Carmody whether any other treatment than extraction was of benefit in cases of small abscesses?

Dr. N. Schoolman asked whether the finding of teeth in the antrum of Highmore, especially in a case reported subsequently as being a sarcoma, would be conceded as a dermoid cyst, or whether these teeth are found in any other way?

Dr. Charles M. Robertson referred to leukoplakia, saying that he wished Dr. Carmody had said something about its occurrence in cases where carious or roughened teeth are the primal cause of the condition. We are interested in leukoplakia for the reason that it breaks down into epithelioma, and from epithelioma into carcinoma. Dr. Robertson has seen numerous cases of cancer of the tongue, cheek and back part of the throat that were directly caused by rough or carious teeth, either from a bad place that is anchored on floating teeth, or from pyorrhea teeth that are ragged-edged and irritate the mouth. Leukoplakia used to be considered as a disease accompanying irritation in the shape of smoking and chewing of tobacco. That, in Dr. Robertson's opinion, to a certain extent is a mistaken idea. He believes that the teeth were the real cause of the leukoplakia, and not the irritation caused by the fumes of tobacco or the chewing of tobacco. Dr. Carmody did not bring out very strongly the idea of stretching the palate for the straightening of the septum. Submucous operations are done on children of tender years nowadays, which septa could probably be straightened by the broadening of the palate, as that brings the septum down, whereas, it

was a V-shaped before. This elongates the vertical dimensions of the septum, pulling it into a straight plane.

Dr. H. Kahn asked at how late an age one may begin to broaden the jaw in septal cases?

Dr. Carmody, in closing, said that Dr. Fletcher and Dr. Farrell referred to extraction of all the teeth for neuralgia. Very frequently the cases of tic douloureux that we see have had all of the teeth extracted, and in those cases the pain has usually been located in one tooth. As soon as that tooth is extracted, the patient will refer the pain to the next tooth, and so on, until they are all extracted. As Dr. Farrell said, these cases do not clear up by extraction of the teeth alone, if they are true neuralgias.

Dr. Carmody has had somewhat the same experience, sometimes, as that of Dr. Beck, in lack of cooperation on the part of dentists. Regarding the making of X-ray plates, the speaker has found that the plates, so far as the jaws and teeth are concerned, are unsatisfactory. They do not give the idea of a root very well. However, they do give a very general idea of the sinuses and jaws.

Answering Dr. Freidberg's question, in many cases extraction alone is necessary. In others, however, it is necessary to curette the bone, because of the caries. However, if the root canal can be opened well enough for drainage, the tooth does not always have to be extracted.

As regards dermoid cysts, the probabilities are that a dentigerous cyst is very similar to a dermoid cyst; however, it is not a change like we have in dermoids.

He believed that if Dr. Robertson would look up the literature on the subject of leukoplakia, he would find that smoking has something to do with it, nevertheless. There is no question but what teeth have a great deal to do with epithelioma in the mouth.

Dr. Kahn spoke of broadening the arches. Dr. Carmody believes that a great many septa can be straightened in this way, and the little patients saved a great deal of trouble.

It should be remembered that the lymphatics in younger patients are more open than in older patients. He had had the misfortune to see a patient die of meningitis following a submucous resection, and since that time he has hesitated to operate on younger children. This little patient was only eleven years of age. As to how late these operations can be performed—the oldest was twenty-eight years. The probabilities are that spreading the arch and helping to straighten the septum meets with better success, if done earlier. Orthodontists believe now in beginning with the temporary set of teeth, if there seems to be trouble, and especially after the eruption of the six year molars.

#### CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

The regular monthly meeting of the Chicago Laryngological and Otological Society was held March 21, 1916, with the President, Dr. Otis H. Maclay, in the chair.

#### CONGENITAL ABSENCE OF SOFT PALATE.

Dr. H. B. Young, of Burlington, Iowa, presented this case. He said the problem of repair by operation or prosthesis was before him, and he merely wished an expression of opinion from the members. He also presented two adults as a demonstration of the finished product in oralism. It has been said by some that Dr. Young is opposed to oralism. This is not the case; but he would not want the profession to believe that in pure oralism we have a solution of the problem of what is to become of the incurably deaf. The main point of his contention is that the propaganda of oralism approaches charlatanry, and that it is the duty of otologists to tell these patients what may be done, and the limitations of oralism.

## DISCUSSION.

Dr. Kenyon asked if there had been any attempt made to change the tone of the voice, to which one of the patients replied that he was once sent to a teacher who tried to do this, but not with very much success.

Dr. Shambaugh said the object of oralism was to allow these patients to talk with others who were not deaf and did not use signs.

Dr. Young said that we all unconsciously use signs in talking. This is carried out by the "movies."

Dr. Kenyon asked if Dr. Young were not minimizing the advantages of the oral method, to which Dr. Young replied that that was not his intention, as he thought it had benefited these deaf patients very much, but not so much as was expected. His belief is that the combined method is the most useful.

Dr. J. Holinger said it is well known that it is much more difficult to preserve speech if the hearing is lost at a very early age. He thinks that the main question is good teachers and constant practice in lip-reading and speaking after deafness has set in.

Dr. Young said that his object in presenting these two patients was to combat the impression, conveyed by the occasional exhibition of "infant prodigies," that such attainments will develop into greater things in adult life—an erroneous impression if the adult deaf are creditable; also to show the contrast between the semi-deaf and the totally deaf (from childhood)—which two conditions were typified by the two men presented—with equal opportunities.

## CASE OF SYPHILIS AND CARCINOMA, POSSIBLY BOTH.

Dr. George A. Torrison presented a man, aged 50, whose wife died in 1906, probably of tuberculosis. His father died at the age of ninety, of old age; mother at eighty, of old age. One sister died at 29, probably of tuberculosis; one died in childbirth, at 30; one sister living, at 34. He has two brothers living, aged 40 and 36, both healthy. Seven brothers and sisters died in early childhood. The patient had gonorrhea at the age of 20; also had a sore on the penis, with adenitis. No venereal symptoms for past thirty years. Has had slight attacks of muscular rheumatism from time to time for several years. Has had no attacks for last four years. Present trouble began in September, 1915, with difficulty in swallowing. He felt as though something stuck in his throat, which he could not get up or down. This difficulty gradually increased, until he was unable to swallow solid food. He has never complained of actual pain, but swallowing became more and more difficult until sustenance was limited to liquid food. He has lost about ten pounds in weight. In December, 1915, he was operated for fistula in ano; since then there has been more or less constant discharge. When the speaker first saw him, in January, he could only swallow liquids, but had no pain. The voice was unaffected. The epiglottis was about all that he could see, on examination; it was one nodular mass. Wassermann was slightly positive, and patient was immediately started on antisyphilitic treatment, shortly after which the appearance of the epiglottis changed. From being one mass, it became a cleft affair. Swallowing has become easier, so that it is possible for him to swallow solid food, but with some little difficulty. He has taken about thirty mercurical inunctions, combined with iodide of potassium, three times daily; also injections of cacodylate of sodium, the first of three

grains, and the last four injections twice a week, of five grains each. There has been some glandular involvement on both sides of the neck. Under the anti-syphilitic treatment the glands on the right side have disappeared, but there are still one or two on the left side.

Dr. Torrison thought the diagnosis lay between syphilis and carcinoma, possibly a combination of the two. Although there appears to be some tubercular history in the family, he thinks tuberculosis can be excluded, because there are no lung findings, no elevation of temperature, no pain on swallowing, and if it had been tuberculosis he thinks the process would have progressed much more rapidly than it has under the large doses of iodide of potassium he has been taking. He does think there is a syphilitic element in the case, but whether it is purely specific or a combination of syphilis and carcinoma he could not feel sure. It has yielded very slowly to treatment, which has extended over two months. A week ago he began to complain of loss of appetite, so the K. I. was stopped, and appetite has improved. Since stopping the K. I. he has gained two or three pounds in weight. While under treatment, was run over by a motor truck, and was in bed for three weeks, since which time he has not felt quite so well.

## ADHESION OF POSTERIOR PILLARS TO POSTERIOR WALL OF PHARYNX.

Dr. George W. Boot said this young man consulted him on account of obstructed nasal respiration, due to a defective septum, and having no connection with the condition in the throat. The patient knew nothing of when the throat trouble began, but gave a history of having had scarlet fever when a child. Dr. Boot thought the condition was undoubtedly the result of an ulceration of the throat from the scarlet fever. There was only a narrow opening, about  $1\frac{1}{2}$  centimeters long and .5 centimeters wide, in the midline. There is evidently a band underneath, which is adherent all the way across. Dr. Boot intends to separate each pillar from the pharyngeal wall, and put a mattress suture through, bring the ends out and tie them, so as to fold the pillar on itself and let the pharyngeal wound heal by granulation. The pillar would be covered on both sides by mucous membrane.

Dr. C. M. Robertson said he would like to see how much contraction occurred after the operation described. He thought it probable that the operation would have to be repeated.

## CASE OF DECOMPRESSION OF THE HYPOPHYSIS.

Dr. Otto J. Stein presented a man who was operated on three weeks before by the trans-sphenoidal-nasal route, the operation being done upon his sella. He was operated for blindness, which had been present for five years, the man having been blind even to light. X-ray showed tumor in the neighborhood of the hypophysis causing pressure. The patient did not present any of the symptoms of hypophyseal disease, the only thing indicating involvement of the hypophysis being the blindness, aside from the



condition shown by the x-ray. Dr. Stein's main reason for bringing the patient was to demonstrate what the rhinologist can really do by a decompression operation. In his opinion, the rhinologist has in his field an avenue of approach that is even superior in its simplicity, in its safety and in its final results than the general surgeon has, by the frontal or temporal, or through the oral trans-sphenoidal route. The rhinologist also has a technic at his fingers' ends that does away with many of the disagreeable features of the trans-sphenoidal-nasal route, which the general surgeon employs. In following Hirsch's technic, a simple submucous resection of just enough septum to reach the ostium of the sphenoid, and removing only one middle turbinate, are necessary. In people with very large nostrils that even might not be necessary. But a little more room is required than you get in an ordinary nose without removing the middle turbinate. There is no disagreeable result left after this operation; no dryness; no disfigurement; no loss of the sense of smell or discharge or other deformity. The patient presented was operated under scopolamin-cocaine anesthesia. The result is very gratifying. The man can see very well the ordinary objects about him, and can distinguish colors. He is able to get around very well alone. Dr. Stein said that he would present the pathological findings at a later meeting.

#### DISCUSSION.

Dr. J. R. Fletcher has seen Dr. Stein perform the operation on the patient presented, and was very much pleased with the brilliancy of the work. Dr. Stein did a submucous, removed a minimum of the septum and one middle turbinate, took down the anterior wall of the sphenoid, and then the floor of the sella. There was no blood to speak of. The pulsation of the hypophysis could be seen. He was impressed with the ease of approach in an era which, until recently, had seemed unapproachable.

#### INTRAMURAL MALIGNANT TUMORS OF THE LATERAL WALL OF THE NASOPHARYNX.

Dr. E. P. Norcross said that primary malignant growths of the naso-pharynx, especially carcinoma, are of rare occurrence. There have been many more case reports of such tumors since 1910, probably due to the fact that they have been more accurately observed. Among the principal contributors to the literature on this subject are Jackson, Oppikofer, Trotter, Citelli, and Laval. Malignant growths in this area are interesting because they present such definite symptoms, based upon anatomical foundation. Dr. Norcross reported the case of a young woman, twenty years of age, who consulted him for enlarged glands of the neck. The speaker at that time was of the opinion that the glands were due to infection from a retained portion of tonsil tissue, which was then removed. Later the glands on both sides of the neck were extensively involved and were removed, the diagnosis being tuberculosis of the glands of the neck. Pathological examination showed them to be carcinomatous. A primary infiltrating growth was then discovered in the post-nasal space, although up to this time it had not caused any symptoms referable to her nose or

throat. The patient also complained of deafness. Death occurred two years and three months after the doctor first saw her.

The original site of carcinomas of the post-nasal space is usually on the lateral wall, and for this reason early in their course there are few objective signs of the tumor.

The symptoms of carcinoma of the naso-pharynx are interesting, first, because in the early part of the disease there is very often an entire absence of symptoms that could be interpreted as due to disease in this locality. Second, because such tumors frequently present a clinical picture of remarkable similarity, because the area in which they arise involves the inferior division of the fifth nerve, Eustachian tube and levator palati muscles. The symptoms, therefore, are often middle ear deafness, trifacial neuralgia, and frequently enlargement of the cervical glands.

#### DISCUSSION.

Dr. Otto J. Stein wished to lay special emphasis on malignancy in the pharyngeal space, because it has a direct bearing on the subject of malignancy of the post-nasal space. He narrated the case of the wife of a physician, who referred all the pain to the left tonsil, when the condition later was found to be carcinoma of the lower pharynx. This occurred in the days before the common use of direct laryngoscopy. This case taught the speaker a lesson about referred pain.

Dr. Arthur M. Corwin said that men who are used to seeing many cases of a given sort are apt to become contracted in their way of viewing them. Specialists look through a narrow hole at the pathological world, unless they have an invariable system, even when busy, of making a complete examination of each patient from head to foot.

Dr. George M. McBean said that the case reported by Dr. Norcross reminded him of one he saw only the week previous. The patient complained of throat trouble for two years—principally of pain in the throat on swallowing, extending up to the ears—which was diagnosed by a physician as rheumatism of the pharynx. Some carious teeth were extracted, but still the rheumatism continued. She went to another physician, who found she had a retroverted uterus, and a ventrofixation was done. The uterus fell back to its original position two weeks later. Another operation was performed and a normal uterus removed. That did not improve the rheumatism of the pharynx at all. Then she hunted up a foot specialist, who put some braces under her arches. Still the rheumatism of the pharynx continued—in fact, became worse. She declined a tonsillectomy, which was advised. Last January, about twenty months after the onset of the trouble, she spit up some blood, and a diagnosis of tuberculosis was made, and she was put out in the back yard, in a temperature somewhat below zero, and given an electric pad to keep her warm. That did not cure her either. Then she was given tuberculin injections. Two other kinds of vaccines were made, to be given on alternate days, and she was also given large doses of the salicylates internally. She lost fifty-five pounds. She was forty-three years of age. When Dr. McBean first saw her she was just able to hobble in, and had a marked cachexia. She found an epithelioma just below the arytenoid cartilages, which had ulcerated, with a slough on the top of it. He recommended a surgeon for a gastrostomy, and also suggested the use of radium. The internal medication was stopped, and the patient has gained a little in weight. The growth was in the hypopharynx.

Dr. Charles M. Robertson did not know that cases of malignancy of the naso-pharynx were so rare as Dr. Norcross said. The growths that are common in the naso-pharynx are fibromas, and whether fibromas are malignant or not, he did not know, but most of those he has seen were. He had seen quite a number of growths in the throat, in the lateral wall, but nearly all of them were extensions from the sphenoidal sinus. He had had one classical case of fibrocarcinoma, which Dr.

Sonnenschein had also seen, with a recurrence in the larynx. Laryngeal fissure and an exenteration of one side of the larynx produced a cure, and the case is old enough now to warrant saying that it is probably beyond recurrence, as it was operated upon six or seven years ago.

He did not understand why there should be very many tumors in the side wall of the pharynx unless the tonsil was involved. There is nothing on the side wall of the pharynx except the superior constrictor muscle and a little lymphoid tissue.

Dr. Robertson thinks that probably nearly all of these tumor growths in the nasopharynx are secondary.

Dr. George E. Shambaugh has seen one case very much like the one reported by Dr. Norcross. The patient was a medical student, whose complaint was disturbance of hearing. The ear trouble was caused by an occlusion of the pharyngeal orifice of the Eustachian tube, due to the tumor in the naso-pharynx. The ear symptoms continued to be one of his chief annoyances until the end, and required frequent openings of the drum membrane in order to relieve sensations of pressure, caused by rarefaction of air in the tympanum.

Dr. Norcross, in closing the discussion, said there were many reports of sarcomas in this space, but he had confined his paper to carcinoma. What he wished to call attention to was that often there was very little to be seen when one examined the post-nasal space, and the symptoms so frequently complained of were those either of deafness or enlarged glands in the neck, or of neuralgia.

## A STUDY OF THE PHYSICO-MECHANICAL FUNCTION OF THE FAUCIAL TONSIL.

Dr. Elmer L. Kenyon, and Dr. W. T. Kradwell.  
(This paper appears in the June issue of the ILLINOIS MEDICAL JOURNAL.)

### DISCUSSION.

Dr. Otto J. Stein said, as he understood the paper, it seems almost absolutely essential to the function of the palatoglossus muscle to have a tonsil back of it, and it is almost as important to have a tonsil in front of the palatopharyngeus muscle. If it is a fact that the tonsil is necessary for the proper function and activity of these two muscles, how did Dr. Kenyon reconcile the fact that in cases where there is a normal retrogression or atrophy of the tonsil, where no vestige of the gland is seen, you can have such a perfect-looking, anatomically constructed throat. These cases are seen repeatedly. There is no doubt but what the operative interference produces changes spoken of by Dr. Kenyon, but we should compare the results following operative work with the condition that would obtain without operation. From a practical standpoint, a great deal more is gained, from the operative viewpoint, based upon the indications for operation, than from the results of operative work—that is, minor work. Weighing the matter this way, it seems to him the objections are very slight.

Dr. George E. Shambaugh has been impressed with the marked alterations, as the result of scar formations, which occasionally follow the enucleation of the tonsils, but which produce no disturbance of the voice. Disturbance of the voice seems to be a very unusual sequel to such alterations.

Dr. Shambaugh has always been very conservative in operating on singers, and has refrained from operating in these cases except under rather urgent indications. In the cases of this sort which he has operated on he has never had anything but a satisfactory result. Still, one never knows when the tonsils are enucleated just how much alteration may follow from scar formations.

Dr. Kenyon had pointed out the objections to a tonsil enucleation which rest upon the alterations in the pharynx following this procedure, but he did not suggest a suitable substitute for the operation. As a matter of fact, tonsil enucleation is not undertaken lightly, but is only done in cases where there exists ample justification because of the menace from tonsil infection. Where these indications exist, the objections to the operation appear very insignificant, as compared with the danger of leaving the tonsils alone. Any

operation short of enucleation has so far proved entirely unsatisfactory. Cutting off the tonsils, or attempts to cut them out, leaving the capsule, are followed too frequently by an increase in the trouble to justify, as yet, the employment of such methods.

Dr. Arthur M. Corwin thought the spirit of Dr. Kenyon's paper was better than the paper. He did not wish to be misunderstood by anyone when he said that, however. He meant that the careful, thoughtful approach of a subject like this, in the face of ten thousand or one hundred thousand tonsillectomies, with a view to determining the different phases of the end results, is the kind of work that we want to see. From that standpoint, he thought the paper a good one. He thought that possibly Dr. Kenyon's results or final statements were a little more dogmatic, perhaps, or a little more final, than he would wish eventually to make them. Dr. Kenyon was not yet through with his investigation of the subject, and was not yet ready to say that the tonsil is absolutely necessary for good physiological and good anatomical relationship, so far as these pillars are concerned. The essayist's conclusions would lead him to rather an equivocal position. The classification struck Dr. Corwin as far-fetched and the estimates based too much on guesswork to make the conclusions valuable.

While Dr. Corwin has not seen any cases of impaired voice from a tonsillectomy, either among his own or following operations by colleagues, he felt that the same attitude of mind expressed by Dr. Shambaugh was experienced by all conservative laryngologists. He never approaches a patient, whose profession is singing, to do a radical operation on the throat without mental reservation. And yet he has operated on many such, always with satisfactory results.

He did not know what Dr. Kenyon's conclusions will finally be, some years hence, but it seems to him that he must evolve a new operation, by which the tonsil mucous membrane shall be carefully peeled off, like the peeling of an orange, the tonsil shelled out and the mucous membrane carefully sutured to the capsule and to the pillars, thereby saving the entire sinus, well filled with epithelium. But even then he would not have the tonsil, which he seemed to indicate somewhat dogmatically is necessary for perfect function and perfect anatomical relations of the throat. The practical clinical experience, now of many years, of many observers of many cases, does not substantiate the essayist's anatomical contentions.

Dr. Charles M. Robertson said that it must be recognized that there are two types of tonsils—diseased and non-diseased, if there is any such thing as the latter class. The essayist had given two thoughts in his paper: First, that the tonsil must necessarily have a block behind it to support it; second, that the tonsil in its enucleation produces more or less cicatricial tissue, which destroys the function of one or both muscles. In adults who have had recurrent attacks of tonsilitis, Dr. Kenyon must remember that these are not cases of normal tonsilitis. There may be a lot of cicatricial tissue there before the tonsil is enucleated, that has already interfered with the glossopalatal and glossopharyngeus muscles. We find cases even that have had necrosis of these tissues and necrosis of the superior constrictor muscle. There are more than forty cases on record in which the necrosis has been so great that there has been aneurysm and rupture of the internal carotid artery and death. In a case like that you could not expect to operate and have normal tissue afterwards in the muscle. The muscle is already weak or scarred. Of course, if there is a large tonsil, you must expect a lot of contraction. But here is the point: In all those cases where there is contraction after operation, there is an aftermath in the months following, in which the cicatricial tissue softens, just as any scar tissue softens.

As regards operating on singers, the speaker does not understand why men should fear it. He would operate on a singer just as soon as on anybody else, or a little sooner, perhaps. He has operated on dozens of singers, and their voices were all improved.

It has occurred to him that it would be a nice thing if some one would evolve a plan by which a little skin graft could be planted immediately after operation.

(To be continued)



## ENGLEWOOD BRANCH, CHICAGO MEDICAL SOCIETY

*Secretary's Annual Report, 1915-1916.*

*Mr. President and Members of the Englewood Branch:*

Your secretary sends greetings and begs to submit the following brief report of the work done during the past year.

During the year 1915-1916 we have held nine scientific meetings and the following programs have been presented:

### OCTOBER.

1. Focal Infections in Their Relationship to Dentistry and Medicine:
  - (a) Sinus Infections.....G. Henry Mundt
  - (b) Pyorrhea Alveolaris .....John H. Hospers, D. D. S.
2. Care of the Teeth in Early Childhood and Its Relationship to Present and Future Health..
  - .....F. B. Coombs

### NOVEMBER.

1. Differential Diagnosis of the Commoner Skin Diseases (A clinic, held at Cook County Hospital) .....Frederick Harris

### DECEMBER.

1. Pyloric Spasm and Stenosis.
  - (a) X-ray Studies.
  - (b) Medical .....I. A. Abt
  - (c) Surgical .....Alfred Strauss
2. Intestinal Obstruction (experimental study)...
  - .....James J. Moorhead
3. Surgical Relief of Colon Stasis..Rupert M. Parker

### JANUARY.

1. Acute Follicular Tonsilitis in Its Relationship to Systemic Infections.....L. E. Barnes
2. Chronic Tonsilitis, Pathology and Bacteriology.
  - .....J. J. Moore
3. Indication for the Removal of Tonsils.....
  - .....Frederick J. Lesemann

### FEBRUARY.

#### *Pneumonia:*

- (a) Bacteriology.....Alexander Day
- (b) Diagnosis (adults).....Walter H. Buhlig
- (c) Diagnosis (children)....John G. Campbell
- (d) Treatment .....L. J. Osgood

### MARCH.

1. A Discussion of Syphilis with Particular Reference to the Newer Methods of Diagnosis and Treatment.....V. D. Lespinasse
2. Presentation of Cases (Skin Clinic).....
  - .....Members of Branch
  - Discussion by Joseph Zeissler.

### APRIL.

#### *Renal Infections:*

- (a) Newer Tests for Renal Function.....
  - .....C. Hubart Lovewell
- (b) From Medical Side.....E. E. Simpson
- (c) From Surgical Side.....Carl Langer

### MAY.

- Toxic Delirium and Its Treatment.....
  - .....H. Douglas Singer, Kankakee, Ill.

### JUNE.

#### *Fallacies as Observed in the Practice of:*

- (a) Surgery.....C. A. Stevens
- (b) Medicine .....H. H. Mather
- (c) Obstetrics and Gynecology...H. H. Hagey
- (d) Pediatrics.....A. G. Bosler

The average attendance at our scientific meetings has been 5.77, this being 54.5 per cent of our paid up membership according to the last issue of the bulletin.

The Fifteenth Annual Banquet and Ladies' Night was held at the Stock Yards Inn on January 19, 1916. The attendance was 145.

A special meeting was held at the Stock Yards Inn on April 12, 1916, in honor of Drs. J. W. McGuire and Fred Moeller, they both having just returned from extended tours. The meeting was a great success.

There have been five regular meetings of the council.

We have published ten editions of the news letter and a special year's program was printed.

Every member who has been sick and which fact was known to the secretary, has received flowers from the branch, paid out of the general fund.

We close the year feeling that it has been a most successful one. Our president has been untiring in his efforts for the comfort and welfare of the branch, harmony and good fellowship prevailing. The members of the standing committees have done good work and our members have been loyal and given their hearty co-operation. In fact the success of the Branch is due to harmony, good fellowship and co-operation of our members.

To all the secretary desires to express his thanks and appreciation for their help, counsel and encouragement and asks for continuance of the same for the coming year.

ARTHUR G. BOSLER, Secretary.

### IROQUOIS-FORD COUNTIES.

The regular quarterly meeting of the Iroquois-Ford Medical Society was held June 6 at Milford, at the invitation of Dr. H. D. Junkin, and consisted of clinics, lectures and papers.

At 9:30 Dr. Junkin gave a clinic at the hospital with the following cases: 1, Appendectomy and suspension of uterus; 2, Perineorrhaphy; 3, Hydrocele; 4, Tonsillectomy.

At 12:30 dinner was served at the Van Tryun hotel.

At 2:30 the society assembled for the regular program at the Gem theater. We were first entertained with moving pictures.

Dr. S. M. Wylie's paper on "Microscopical Examination of Fecal Contents and their Significance" was read by Dr. Hall, in Dr. Wylie's absence. After its discussion by Drs. Ross and Junkin, a lecture and series of Roentgen Ray plates was given by:

Dr. B. O. Orndorff, of Chicago, "Roentgen Diagnosis of Certain Stomach and Intestinal Diseases." Illustrated by lantern illustrations.

Dr. G. W. Ross gave a verbal report of the meeting of the State Medical Society.

Dr. W. F. Buckner of Watseka offered a resolution relative to a proposed office of county surgeon, which was adopted.

A discussion was held relative to the decision of the Iroquois-Ford Medical Society into two societies, which was participated in by Drs. Buckner, Hall and others.

Eight members and seven visitors including Dr. E. B. Cooley, president-elect of the Illinois State Medical Society, were present.

A large number of physicians had responded to an invitation to be present, but owing to an all night and all day rain, many nearby physicians, even, were unable to come.

DR. C. S. MONTGOMERY,  
Sec., Pro-Tem.

#### MACOUPIN COUNTY.

Macoupin County Medical Society met in regular session in the new Commercial hall at Virden, April 25, and was called to order by President Dr. M. McMahon of Palmyra.

Twenty-three members and visitors were present.

The committee of censors reported the following officers for the coming year: President, Dr. F. A. Renner, Benld; vice-president, Dr. G. E. Hill, Girard; secretary-treasurer, Dr. T. D. Doan, Scottsville; medico-legal advisor, Dr. J. S. Collins, Carlinville; delegate, Dr. T. D. Doane, Scottsville; alternate, Dr. J. P. Matthews, Carlinville.

The above officers were unanimously elected for the coming year.

The following amendment to the constitution was unanimously adopted:

(a) The regular meetings of the Society shall be held the fourth Tuesday of March, May, July, September and November, of each year.

(b) The regular meeting held in March shall be known as the annual meeting and at this meeting shall be held the election of the following officers: President, vice-president, secretary-treasurer, delegate, alternate delegate and medico-legal advisor.

Dr. E. B. Hobson of Jerseyville, having retired from the practice of medicine and having attained the age of seventy years, was elected to life membership in the county society.

The certificate of life membership, a work of art, having been made by an expert penman, was presented by President McMahon, in an eloquent address.

Dr. Hobson replied in his pleasing manner and promised to meet with the society often. Dr. R. W.

Holmes of Chicago gave an address, "More Recent Methods of Examination in Labor." This address was discussed by all present. A rising vote of thanks was extended to Dr. Holmes for his address.

On account of sickness, Dr. A. E. Prince of Springfield was unable to be present to give his address, "Topical Infection."

Dr. J. H. Davis of Carlinville was also unable to be present to give his address, "Puerperal Eclampsia."

On motion the society decided to omit the May meeting for this year and meet at Scottville in July.

T. D. DOAN, Secy.-Treas.

#### OGLE COUNTY.

The Ogle County Medical Society met in the Public Library Hall, Polo, May 3, 1916, at 1:30 p. m. President Griffin called the meeting to order. There were thirteen members and a number of visitors present.

Dr. Frank M. Wood of Chicago read an excellent and well appreciated paper on "Vaccine Therapy in the Modern Treatment of Diseases." This paper was ably discussed by Drs. Beebe, Gardner, Murphy and Snyder; Dr. Wood closing.

Dr. Karl F. Snyder of Freeport read a modern and instructive paper on "Cure of Tuberculosis of the Spine by Means of Bone Grafting." This lecture was carefully illustrated by charts. Discussion followed by Drs. Wood, Murphy and Inks. A vote of thanks was given Drs. Wood and Snyder by the society.

This was a postponed meeting, owing to the bad condition of the weather and roads, and it was feared would not prove a success, but in view of the good attendance and enthusiasm it was one of the best meetings ever held by this society. The next meeting will be held at Stillman Valley in July.

DR. J. T. KRETSINGER, Secretary.

#### VERMILION COUNTY

##### *Coolley Day in Danville*

June 19 was the biggest day for the Vermilion County Medical Society since the state society met with us. On this date the County Medical Society gave a dinner in honor of Dr. E. B. Cooley, president-elect of the Illinois State Medical Society. Doctors and their ladies were present to the number of 89. It was strictly a Cooley night.

Programs appropriate for the evening were found at each plate. These contained a picture of Dr. Cooley, a menu arranged very much "a la Cooley" and a pen picture of the honoree's country office of years ago. The after-dinner program consisted of toasts which chronicled Dr. Cooley from boyhood and school days through college and his medical career. Toasts were given on the following subjects:

1. "Coolley the Boy," Dr. F. W. Burres of Urbana, Ill.
2. "Coolley the Literary Student," Dr. John Ross Pontiac, Ill.



3. "Coolley the Medical Student," Dr. George F. Butler, Mudlavia, Ind.

4. "Coolley the Country Doctor," Dr. Michaels, Muncie, Ill., and Dr. Babcock, Danville.

5. "Coolley the Physician," Dr. J. M. Guy, Danville.

6. "Coolley the Medical Politician," Dr. R. A. Cloyd, Catlin.

Dr. Joseph Fairhall, Danville, with his happy wit, made an excellent toastmaster.

A bunch of Danville boosters had arranged parodies on familiar melodies fitting to follow each speaker. They started the program for Coolley by leading off, to the tune of Mr. Dooley, with:

"Oh, Dr. Coolley! Oh, Dr. Coolley!  
The greatest Doc this county ever had;  
We're glad to see you,  
We hope to please you,  
At least we hope we will not make you sad!"

In similar manner they followed him with suitable songs until he had been toasted and roasted to his present position as president-elect of the Illinois State Medical Society. At this time the following parody on "Illinois" was rendered:

"Doctors of Vermilion county,  
Illinois, Illinois.  
Meet for friendship, love and bounty,  
Illinois, Illinois.  
And to honor favorite son,  
So for him we're going some,  
And our echoes go and come,  
Coolley boy, Coolley boy,  
And our echoes go and come,  
Coolley boy!"

Dr. Coolley, in his response, expressed great appreciation of the things said and done in his honor, stating that to be the recipient of such at the hands of the medical fraternity, after twenty-five years' association, was significant. The meeting was conceded to be the greatest of its kind ever held in Danville and the members left singing praises of the evening and congratulating Dr. Coolley.

O. H. CRIST, Secretary.

## Personals

Dr. Edmund J. Burke, La Salle, is reported to be ill with scarlet fever.

Dr. Wallace F. Grosvenor announces a new office at 4700 Sheridan road.

Dr. J. S. Eisenstaedt announces the removal of his office to 25 East Washington street, Chicago.

Dr. G. Frank Lydston announces the removal of his office to 25 East Washington street, Chicago.

Dr. Clarence W. East, Evanston, has been appointed district health officer for the northeast section of the state.

Dr. J. George Vaughan, Aurora, a medical missionary in Nanchang, China, for the last seven years, is now on a furlough in America.

Dr. Nelson M. Percy, Chicago, delivered an address on "Surgery Management of Pernicious Anemia" before the Kalamazoo Academy of Medicine, May 23.

Dr. J. Whitefield Smith, of Bloomington, received the honorary degree of Doctor of Laws from Blackburn University, at Carlinville, at the commencement last month.

Dr. F. N. Wells, of Pittsfield, ex-president of the Pike County Medical Society, was elected alderman and city physician of Pittsfield last spring. He is also county physician.

Patients of the Municipal Tuberculosis Sanatorium, May 14, presented Dr. John W. Coon with a written address of appreciation and an elaborate desk and filing cabinet system.

Dr. John B. Murphy was invested with the insignia of "Knight Commander of the Order of St. Gregory the Great" by Archbishop Mundelein, June 15, on behalf of Pope Benedict XV.

Dr. A. N. Mueller, Rock Island; Dr. H. A. Beam, Moline; Dr. Walter Tackett, Hampton, and Dr. E. A. Soule, South Moline, have been re-elected as county physicians for Rock Island county.

At the request of Judge Newcomer, Dr. Robertson, health commissioner of Chicago, has assigned a physician to the court of domestic relations, where many mothers attend with young children.

Dr. Frank A. Stubblefield has been transferred from the staff of the Alton State Hospital to that of the State Hospital for the Criminal Insane, Chester. He has been succeeded at Alton by Dr. Van Pelt.

A committee has been organized to establish a memorial to Henry Baird Favill under the auspices of the City Club and Commercial Club. Drs. Frank Billings and Emilius C. Dudley are the medical members of this committee, which hopes to receive subscriptions amounting to \$250,000.

## News Notes

—The Jackson Park Sanitarium for sick babies at LaRabida opened for the season June 12.

—Four scarlet fever epidemics at the University of Chicago this year are said to have cost the school \$1,200, including the sums refunded to women students for rooms in campus dormitories and board.

—The Physicians Radium Association of Chicago was recently organized with Dr. W. L. Baum as president, to secure a large amount of radium and place it within the means of as many patients as possible.

—Dr. H. C. W. Gresens, Chicago, was fined \$50 and costs for failing to report a case of ophthalmia within six hours, as the new law requires. He said it was the only case of ophthalmia he had had in 500 confinements.

—A new outbreak of foot and mouth disease is reported in Christian county after a period of three months of immunity, and the Federal Bureau of Animal Industry has placed the county under quarantine.

—At the annual meeting of the Chicago Surgical Society, June 2, the following officers were elected: President, Dr. William M. Harsa; vice-president, Dr. William Fuller; secretary, Dr. Kellogg Speed, and treasurer, Dr. Frederick G. Dyas.

—At the meeting of the Elgin Practitioners' Club, May 15, Dr. Harry E. Kerch, Dundee, was elected president; Dr. Howard T. Knight, Jr., Elgin, secretary-treasurer, and Dr. Howard K. Scatliff, Elgin, chairman of the executive committee.

—The Board of Trustees formally opened the Rockford Municipal Sanitarium for Tuberculosis on the afternoon of Saturday, June 10. Every city in the state should follow Rockford's example. Education and isolation are agencies with which to wipe out this scourge.

—The Physicians' Club of Chicago at its annual meeting June 29, at the Hotel Sherman, elected William D. Napheys as secretary. The directors elected for two years are Arthur M. Corwin, Henry W. Cheney and John Weather-

son. The holdover directors are Joseph Zeisler, Charles P. Caldwell and Henry T. Byford.

—Thus far \$2,500 has been obtained of the \$3,000 required to send 250 tuberculous children from the stockyards district to Camp Harlowarden, near Joliet, where they will be cared for from June 26 until September 2. Donations will be received by Mr. George M. Benedict, Drovers National Bank, treasurer of the organization.

—The Chicago Bar Association appointed a committee of five members to investigate the psychopathic laboratory of the municipal court. After studying the procedure for several weeks, a majority of the committee made an unfavorable report, but the association voted to "urge the continuation of the laboratory, in spite of its defects."

—The Julia Rackley Perry Memorial Hospital has been incorporated at Princeton, and Messrs. H. H. Priestly, Cairo A. Trimble and H. U. Bailey have been named as the first board of directors. In the will of Mrs. Perry \$52,000 was devised for the building of the hospital, and the work of establishing the institution will be commenced without delay.

—The jury, after six days' deliberation on the evidence in the case of the Chattanooga Medicine Company vs. The American Medical Association for libel, returned a verdict for one cent damages in favor of the Medicine Company. The trial itself was one of the longest and most costly in the history of the local federal court. Considering the amount of the verdict, both sides claim a victory.

—A survey of Illinois on the question of subnormality is to begin in a few days under the auspices of the Illinois Society for Mental Hygiene. Chicago will be the center of the work, and it is expected that a year will be spent in gathering data on this question. Dr. Sydney Kuh, Chicago, and Dr. Sidney Wilgus, Rockford, are members of the committee which has the matter in charge.

—The formal dedicatory exercises of the Rockford Memorial Sanatorium for Tuberculosis were held, June 10, when Dr. Daniel Lichty, president of the board of trustees of the institution, tendered the property to the city, and Mayor W. W. Bennett accepted the institution on behalf of the city. Dr. George W. Webster, Chicago, formerly



president of the state board of health, delivered the principal address.

—The attention of internes in hospitals is especially directed to the 100 vacancies in the Medical Corps of the army. Examinations will be held July 17 and August 14. After passing the preliminary examinations the applicant spends eight months at the Army Medical School in Washington. Successful candidates are assigned to army posts which are well supplied with medical literature and specializing is encouraged.

—The new convent wing and addition to Mercy Hospital, which makes up the third unit of the new system, was opened to the public, June 15. The building corresponds in style to the two units previously built, has a frontage of 160 feet, and cost \$275,000. The building will contain accommodations for sixty sisters and a hospital addition providing thirty private rooms and four private wards and a maternity department.

—At the completion of the testimony for the plaintiff in the damage suit of \$25,000 brought by Oscar Oserud against Drs. Emanuel M. Rundquist and C. Olof H. Nordwall for alleged malpractice in performing a surgical operation, Judge Frost on May 31 ordered the jury to bring in a verdict for the defendants, stating that the testimony had failed to substantiate the claim, that the physicians had erred in their conduct of the operation.

—The next examination for appointment in the Medical Corps of the navy will be held on or about August 7. The first stage of the examination is for appointment in the Medical Reserve Corps. Successful candidates will then attend the Naval Medical School, beginning about October 1, 1916. During the course he will receive \$2,000 per annum and allowances, and after completing the course successfully, will be commissioned assistant surgeon in the navy to fill a vacancy.

—Major General Thomas H. Barry of the central department ordered out the following members of the army medical reserve corps for service in Springfield, examining troopers as to their fitness to enter the regular army. Seven of the physicians are from Chicago. They are Drs. John A. Hornsby, Arthur R. Reynolds, Henry F. Lewis, James F. Presnell, C. L. Wheaton, E. E. Morton and Francis Deacon. With them are

Dr. A. H. Roler of Evanston and Dr. J. C. Maxon of Harvard.

—The twelfth regular meeting of the Chicago Society for Internal Medicine was held, May 22. The program included papers by Drs. Charles A. Elliott and Walter H. Nadler on "The Effect of Castration on Osteomalacia in the Male"; by Drs. R. G. Hoskins and W. E. Morse on "The Effect of Acid on Gastric Discharge"; by Drs. Ernest E. Irons and P. J. Murphy, on "The Incidence of Localized Infection in Patients With and Without Apparent Metastatic Lesions," and by Dr. Ethal Allan Gray on "Intestinal Perforation in a Case of Pulmonary Tuberculosis."

—The opening exercises of the Graduate School of Medical Science of the University of Illinois were held at the College of Medicine, June 20. After introductory remarks by President Edmund James James of the University of Illinois, Dr. Frank Billings delivered an address on "The Relation of Graduate Work in the Fundamental Sciences to Clinical Study." Announcement of the lectures for the graduate course quarter, which extends from June 20 to September 12, are to be made by weekly bulletins and all interested in graduate work are invited to attend.

—The committee of one hundred, created March 31, for the benefit of the Municipal Tuberculosis Sanatorium, met June 16, and adopted an aggressively constructed program of action. Mr. E. A. Bancroft presided and Dr. Frank Billings, chairman of the executive committee, reported on the need of a permanent organization to discover and interpret facts and to help embody them in programs of action. Mr. Frank E. Wing, formerly business director of the sanatorium, was appointed executive officer of the committee of one hundred, and instructed to open offices in the loop district.

—The campaign undertaken in Highland Park to raise funds for the erection of a hospital culminated, June 12, at a mass meeting held at the Deerfield High School, at which it was announced that instead of \$100,000, the amount required, \$167,000 had been subscribed by men and women of the north shore for this hospital, which is to be nonsectarian, and is to be used by residents of Highland Park, Deerfield, Highwood and Ravinia. Dr. Lloyd M. Bergen is chairman of

the executive committee, and Drs. Henry S. Haskin, Harry B. Roberts and Albert R. Sheldon are medical members of the committee.

—An appeal for \$250,000 is made to equip four base hospitals in Chicago for Red Cross relief work on the Mexican border in case of war. Contributions will be received by Orson Smith, treasurer of the local Red Cross chapter. Mr. A. A. Sprague pledged the amount on behalf of the chapter. On the outbreak of war the hospital units are to be transferred to the proper base near the border, each to have 500 beds. The following directors were named: Dr. J. B. Murphy, for Mercy-Wesley; Dr. A. D. Bevan, for the Presbyterian; Dr. L. L. McArthur, for St. Luke's-Michael-Reese, and Dr. Ochsner, for St. Joseph. In active service the hospitals will be administered by the War Department.

---

## Marriages

---

GEORGE L. APFELBACH, M. D., to Miss Louise Schwefer, both of Chicago, May 3.

GEORGE NYE HISKEY, M. D., to Miss Stella Elizabeth Uthe, both of Chicago, June 3.

WALTER JOSEPH REAM, M. D., Ladd, Ill., to Miss Marie Hall of St. Paul, June 1.

THEODORE A. BAUMANN, M. D., De Land, Ill., to Miss Mabel Ida Prentice of Rockford, June 2.

ABRAHAM SNELL PARK, M. D., Chicago, to Miss Laura Isabel Davidson of Owatonna, Minn., June 7.

FRANCOIS JOHN THEODORUS WAS, M. D., Chicago, to Miss Josephine Von Swartzenberg of Paterson, N. J., May 20.

---

## Deaths

---

STERLING TRIEST SMITH, M. D., Dunlap, Tenn.; University of Nashville, Tenn., 1858; aged 78; died at his home, May 21.

LEWIS H. CLARK, M. D., Decatur, Ill.; Eclectic Medical Institute, Cincinnati, 1868; aged 71; died at his home, May 31.

WARREN CAREY, M. D., LaGrange, Ill.; Rush Medical College, 1883; aged 66; also a dentist; died at his home, June 5, from nervous breakdown.

JOHN PRESTON DECKARD, M. D., Mattoon, Ill.; University of Louisville, Ky., 1880; aged 59; a member

of the Illinois State Medical Society; died at his home, May 13, from cerebral hemorrhage.

FRANK A. JORDAN, M. D., Pecatonica, Ill.; Rush Medical College, 1864; aged 76; a veteran of the Civil War in which he served as assistant surgeon of volunteers; died at the home of his daughter in Freeport, Ill., May 15, from cerebral hemorrhage.

FREDERICK W. LEE, Tiskilwa, Ill.; (license, Illinois, years of practice, 1877) aged 81; a practitioner for half a century; a veteran of the Civil War; formerly trustee and president of the village board of Tiskilwa; died at the home of his son in Tiskilwa, May 10.

M. FRED DATTELZWEIG, M. D., Chicago; Bennett Medical College, Chicago, 1898; aged 46; a Fellow of the American Medical Association; for many years assistant county physician of Cook County in charge of the North Side division; died at his home, May 30, from heart disease, complicating ptomain poisoning.

JAMES ELWOOD STUBBS, M. D., Chicago; University of Pennsylvania, Philadelphia, 1864; aged 78; a member of the Illinois State Medical Society and Physicians' Club of Chicago; formerly professor of theory and practice of medicine in the Harvey Medical College, Chicago; died at his home, June 15, from cerebral hemorrhage.

JAMES FERGUSON VANNICE, Bishop Hill, Ill. (license, years of practice, Illinois, 1889); aged 76; a member of the Illinois State Medical Society; formerly a druggist; a veteran of the Civil War and a practitioner since 1867; for many years school director and clerk of the board of education of Bishop Hill; died at his home, May 25, from cerebral hemorrhage.

PATRICK M. KELLY, M. D., Kankakee, Ill., Washington University, St. Louis, 1892; aged 55; a Fellow of the American Medical Association; for many years a practitioner of Litchfield, Ill., and health commissioner of that city; superintendent of the Kankakee State Hospital from August, 1913, until his resignation a few months ago on account of ill health; died in Colorado Springs, May 30, from nephritis.

LYMAN WARE, M. D., Chicago; Northwestern University Medical School, 1866; University of Pennsylvania, Philadelphia, 1868; aged 74; a Fellow of the American Medical Association and a member of the Chicago Ophthalmological and Otological Society; a specialist on diseases of the eye; hospital steward of the One Hundred and Thirty-Second Illinois Volunteer Infantry during the Civil War; died at his home, June 1, from heart disease.

JOHN R. MCCULLOUGH, M. D., Chicago; College of Physicians and Surgeons, Chicago, 1883; aged 80; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society and Chicago Pathological Society; a practitioner for forty-three years; a veteran of the Civil War in which he served as assistant surgeon of the First Wisconsin Volunteer Infantry, and was a prisoner in Libby Prison; died at his home, May 4.



JOHN T. MONTGOMERY, M. D., Charleston, Ill.; Northwestern University Medical School, Chicago, 1876; aged 63; a Fellow of the American Medical Association; a member of the Big Four Railway Surgeons Association, International Association of Railway Surgeons and Aesculapian Society of the Wabash Valley; founder and proprietor of the Charleston Sanitarium; local surgeon of the Big Four System and Mattoon and Charleston Interurban Railroad; formerly president of the Illinois Fair Association; died at his home, June 14.

## Book Notices

1915 COLLECTED PAPERS OF THE MAYO CLINIC, Rochester, Minn. Octavo of 983 pages, 286 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

This volume of collected papers is uniform with its predecessors so far as external appearance goes. The subjects treated cover a rather more diversified field.

The first subject discussed is tuberculosis of the tongue, a condition not frequently seen. As a primary lesion probably very often wrongly diagnosed. Infections from diseased teeth are discussed, as are the diseases of the lymphatic glands. Gastric ulcer, gastric cancer and allied conditions are rather generously studied. Nephrectomy, bladder and uterine surgery are presented from several aspects. The thyroid is given generous space. The adrenals, pancreas and spleen are discussed and cancer receives much attention. These, together with many other subjects, make up the contents of the volume.

The etiologic and pathologic factors are given more careful study than is usual in a volume of clinical papers. We think this is a better volume than its predecessors, and will be of as much interest to the medical man as to the surgeon.

THE KINETIC DRIVE; its phenomena and control. By George W. Crile, M. D., Professor of Surgery at the Western Reserve University. Octavo of 71 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$2.00 net.

This volume constitutes a lecture given by the author before the New York Academy of Medicine. The author in a prefatory note says: "This lecture is in effect an epitome of a monograph in preparation which will offer the complete experimental evidence upon which these themes and postulates are founded." Any monograph by Crile is eagerly sought, and the readers will not be disappointed in this little volume. Dr. Crile has made many photomicrographs with which he clinches his argument, and they are the illustrations of the booklet.

Increased transformation of nervous energy he has termed the Kinetic drive. This the author shows may be brought about by many agencies or conditions, such as injury, infection, mental or muscular overwork, emotions, pregnancy, excessive diet, for-

eign proteins, etc. He infers that a chronic disease which is made worse by the Kinetic drive would be improved by lessening the drive, this lessening being brought about by surgical procedure, or by a temporary lessening, secured by morphine. You will be interested in these problems.

RULES FOR RECOVERY FROM PULMONARY TUBERCULOSIS. A Layman's Handbook on Treatment. By Lawra-son Brown, M. D., of Saranac Lake, N. Y. Second edition, revised and enlarged. 12mo, 184 pages. Philadelphia and New York: Lea & Febiger, Publishers, 1916. Cloth, \$1.25 net.

This book is written for the tuberculosis patient. The members of the patient's family should read it as well. It explains many things to the patient which would take a great deal of the doctor's time to explain. We think every tuberculosis patient should possess a copy. It gives the patient encouragement as well as a training in the care of this disease.

KING'S OFFICIAL ROUTE GUIDE. A tour book containing the principal automobile routes for the various sections of the country. King's Guides are published in the following sections: King's No. 1 contains the routes of Wisconsin, Illinois, Indiana, Eastern Minnesota, Eastern Iowa and Southern Michigan, \$2.00; King's No. 2, Michigan, Indiana, Ohio and Northern Kentucky, \$2.00; King's Section 3, Wisconsin, Eastern Minnesota and Upper Peninsula of Michigan, \$1.00; King's Section 4, Illinois, Eastern Iowa and Northern Missouri, \$1.00; King's Section 5, Indiana and Southern Michigan, \$1.00; King's Section 6, Ohio and Kentucky, \$1.00; King's Section 7, Michigan and Northern Indiana, \$1.00; King's Section 8, New York, N. W. Pennsylvania, and the Province of Ontario, Canada, \$1.00. Valuable maps published in each section. Published by Sidney J. King, 626-636 South Clark Street, Chicago, Illinois.

These are excellent guide books, and probably give more detail relative to unmarked routes than most other guides. Aside from route guides they contain the usual information concerning hotels, garages, etc. A route book should go with every automobile. They will save you time, and probably prevent you getting on poor roads.

DISEASES OF THE SKIN. By Richard L. Sutton, M. D., Professor of Diseases of the Skin, University of Kansas School of Medicine; Former Chairman of the Dermatological Section of the American Medical Association; Member, American Dermatological Association; Assistant Surgeon, United States Navy, retired; Dermatologist to the Christian Church Hospital. With 693 illustrations and eight colored plates. St. Louis: V. V. Mosby Company, 1916.

The author has attempted and succeeded in presenting this broad field in a comprehensive and concise manner. Where impossible for the author to present photographs from his personal experience, he has introduced those of his colleagues and friends, thereby increasing the value of the book by the presentation of a great number of original illustrations. He has not used space for obsolete methods, and those of questionable value and of theoretical value have not been accorded unnecessary space or omitted entirely, which is a welcome feature.

Reference at ends of subjects are given, increasing its value. Several illustrations of diseases never presented before in any book are inserted. This book should find a welcome among the books of the student and physician, as it is undoubtedly the last word on dermatology.

**THE CLINICS OF JOHN B. MURPHY, M. D.**, at Mercy Hospital, Chicago. April, 1916. Volume 5, Number 2. Published bi-monthly by W. B. Saunders Company, Philadelphia and London. Price, \$8.00 per year.

This volume of clinics is devoted mostly to bone and tendon surgery, and it should be especially valuable to those interested in this branch of surgery.

Some of the subjects in this volume are: A Talk on the Surgery of Tendons and Tendon-Sheaths; Torticollis; Cervical Rib; Traumatic Synovitis of Shoulder; Recent Comminuted Fracture of Head of Radius; Musculospiral Paralysis due to Ancient Compound Fracture of Humerus; Tuberculosis Tenosynovitis of Palmar Synovial Bursa; Chronic Focal Osteomyelitis of Tibia (Brodie's Abscess); Flexion-Ankylosis of Knee-joint; Infantile Paralysis (Leg).

**SKIN CANCER.** By Henry H. Hazen, A. B., M. D., Professor of Dermatology in the Medical Department of Georgetown University; Professor of Dermatology in the Medical Department of Howard University; Sometime Assistant in Dermatology in the Johns Hopkins University; Member of the American Dermatological Association. With ninety-seven text illustrations and one colored frontispiece. St. Louis: C. V. Mosby Company, 1916.

The author has presented this subject quite thoroughly in a book of about two hundred and fifty pages. The book contains nineteen chapters, dividing the subject in a practical manner. The first chapter is one on the general considerations, the second on precancerous dermatoses, and the following twelve chapters on the different kinds of cancer of the skin. Then follows one chapter each on differential diagnosis, prognosis, prophylaxis, treatment, and one on tumors according to location. The latest views on cancer of the skin are incorporated, making it a most valuable book on this subject.

**DISEASES OF THE EYE.** By George E. de Schweinitz, M. D., LL. D., Professor of Ophthalmology in the University of Pennsylvania. Eighth edition, thoroughly revised and enlarged. Octavo of 754 pages, 386 text illustrations, and seven lithographic plates. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

A review of this standard book seems hardly called for, as it has already found a great deal of favor at the hands of the profession. This edition will, however, increase its popularity.

The author has found it necessary to revise it on account of the numerous important ophthalmic observations and therapeutic measures which have been used and recommended since the seventh edition has appeared.

Among the newer subjects are: Clifford Walker's Method of Testing the Visual Field; Squirrel Plague Conjunctivitis; Swimming Bath Conjunctivitis; Anaphylactic Keratitis; Family Cerebral Degeneration with Macular Changes; the Ocular Symptoms of Disease of the Pituitary Body; Sclerectomy with a Punch (Holth's Operation); Preliminary Capsulotomy (Homer Smith's Operation); Iridotaxis (Borthen's Method); Thread Drainage of the Anterior Chamber (Zorab's Operation); and many others. The chapter on Iritis has been rewritten. A new feature is the introduction of the metric system. It undoubtedly is the best American book on the subject before the profession today.

**THE CLINICS OF JOHN B. MURPHY, M. D.**, at Mercy Hospital, Chicago. Volume III, Number III (June, 1916). Octavo of 176 pages, 42 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Price per year: Paper, \$8.00; Cloth, \$12.00.

This volume of Murphy's clinics deals largely with abdominal surgery. The bone work which other volumes have treated generously is almost entirely omitted in this volume.

Some of the subjects of this number are: Diverticulum of Esophagus; Acute Calculous Cholecystitis; Acute Cholecystitis with Diffuse Pancreatitis; Chronic Cholecystitis; Cholelithiasis, Pancreatitis, Appendicitis; Carcinoma of Cholelithic Gall-Bladder; Ulcer of Duodenum and of Jejunum; Obturation Ileus; Post-operative Ventral Hernia (three cases); Carcinomatosis of Peritoneum; Tuberculosis Peritonitis; Perirectal Sinus; Carcinoma of Rectum (two cases); Extra-Uterine Pregnancy (four cases); Pyosalpingitis, Bilateral.

**DISEASES OF THE DIGESTIVE TRACT AND THEIR TREATMENT.** By A. Everett Austin, A. M., M. D., former Professor of Physiological Chemistry at Tufts College, University of Virginia, and University of Texas; present Assistant Professor of Clinical Medicine, in charge of Dietetics and Gastrointestinal Diseases, Tufts College; Member of American Gastroenterological Association and American Society of Biological Chemists; Physician to Mt. Sinai Hospital and Berkeley Infirmary, and Assistant to Boston Dispensary; Author of "Manual of Clinical Chemistry," etc. With eighty-five illustrations, including ten color plates. About 550 pages. St. Louis: C. V. Mosby Company, 1916.

The author in his preface states that his reason for launching another book to swell the multitude is chiefly to put in a pleasing and useful form that which is already known about the subject, leaving out the many newer investigations until proven by time to be worthy of credence. He has succeeded admirably in his effort, and has given us a book which should undoubtedly prove useful to the physician. No attempt has been made to see how large a book could be written, but how well.

The association of the stomach and intestinal tract in one volume is certainly an advantage. The "didactic" form is used in presenting the subject in preference to the "deductive." It reads very easily, and can be recommended to the student and physician as one of our best books on the subject.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXX

CHICAGO, ILL., AUGUST, 1916

No. 2

## Original Articles

### MEDICAL LEGISLATION—RECENT AND CONTEMPLATED\*

C. ST. CLAIR DRAKE, M. D.

Secretary Illinois State Board of Health.

SPRINGFIELD, ILL.

At the conclusion of the sessions of the Forty-Ninth General Assembly, magazines and newspapers of national circulation declared that Illinois had enacted more salutary laws affecting public health and social progress than had been enacted during the year in any other state, and more than has been passed in Illinois in the previous quarter of a century.

In all, there were upward of thirty laws with more or less definite bearing upon public health, the practice of medicine and social and civic welfare that at one time made their appearance upon the statute books of the state.

It is doubtful if there has existed in any previous session of the legislature so cordial a feeling toward the physicians on the part of the legislators. The members of the house and senate seemed to generally appreciate that the medical profession was asking for constructive legislation which would afford greater benefits to the public as a whole than to the profession itself. And, as a matter of fact, most of the medical and semi-medical bills introduced in the General Assembly were of a broad character designed for the public good, and not in any sense for the protection or for furthering the interests of doctors as a class.

On account of this cordial feeling on the part of the General Assembly, which was furthered by the sane and well balanced activity of the legislative committee for the State Medical Society, it was found possible to obtain the passage of measures which had been desired for years, but the passage of which had been sought in vain.

It is my personal conviction that the members

of the Forty-Ninth General Assembly look back upon the medical laws which were passed with very considerable satisfaction, and this impression is supported by the fact that many prominent members of both house and senate have tendered their services to the State Board of Health in the introduction of further constructive legislation during the Fiftieth General Assembly.

I also believe that the record of the last legislature is looked upon with universal satisfaction by the members of the medical profession, with a possible exception of the passage of the so-called Optometry bill.

Those who were active in legislative matters at Springfield saw from the outset that the Optometry Bill bore all of the earmarks of a successful journey through the Legislature, and those who were in closest touch with the situation were not materially surprised when the bill became a law.

I am convinced that many members of the General Assembly did not look upon the opposition to the Optometry Bill as representing any great part of the medical profession, and, as a matter of fact, it cannot be said that the Optometry Bill was opposed by any very considerable proportion of the physicians of the State. Very few medical men took the trouble to express their opinion against this bill to the members of the General Assembly, and there is said to be abundant proof in the form of letters and telegrams that about twice as many physicians endorsed the bill as actively opposed it.

In the face of this apparent apathy and unconcern on the part of the medical profession, the optometrists themselves had conducted an intelligent and vigorous preliminary campaign and kept their representatives constantly on the ground to watch out for the progress of their bill.

This thing stood out conspicuously in regard to the Optometry Bill:—That many of those members of the legislature who have always favored constructive medical legislation, were for the bill from the beginning and the argument

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society, at Champaign, May 18, 1916.

with which they supported their attitude contained much which appealed to those who looked to them for guidance, as sound and logical.

They contended that the highest courts had ruled that the practice of optometry is in no sense the practice of medicine, and that neither the Medical Practice Act nor any other state law regulated the practice of optometry or protected the public from the incompetent or unscrupulous optician or spectacle vender. For this reason it was held by many legislators who heretofore have stood with the medical profession in its legislative battles, that the passage of some law restricting the operations of incompetents and fakirs in this particular line should be passed for the good of the community as a whole.

These members of the General Assembly, now that the law is in operation, point out the fact that more than 500 incompetent spectacle vendors have already been put out of business and they ask the pertinent question—"Is this not for the good of the public and to the advantage of the medical profession as well as the reputable opticians?"

Among other important medical laws which were passed by the Forty-Ninth General Assembly, there is one which removed a weak spot and a source of constant misunderstanding in the enforcement of the Medical Practice Act. This is an amendment to the Medical Practice Act giving to the State Board of Health jurisdiction over all medical licenses issued since the Board was created. Repeated efforts had been made to secure the passage of this amendment, but such efforts in the past have always resulted in failure.

It must be a matter of common knowledge to all of you that the Supreme Court, in passing upon the Medical Practice Act of 1899, held that the law was so worded as to give the State Board of Health jurisdiction over no licenses except those issued under the present law. That is, the repealing clause of the present law nullified the authority which the Board formerly held over its licentiates, and the Board was put in the position of starting with a clean slate from July 1, 1899,—all licenses issued prior to that time being immune from any action on the part of the Board.

On account of this Supreme Court decision, there were innumerable misunderstandings and frequent unjust criticisms of the Board on account of its apparent indisposition to take action

toward the revocation of licenses of offending old licentiates. As a matter of fact the State Board of Health was as powerless as though no medical practice act had ever existed prior to the one now in force.

The amendment secured by the last General Assembly, however, restores to the Board its jurisdiction over all licenses and greatly strengthens the organization in the enforcement of the Medical Practice Act.

Before the Public Health Section of this meeting, I have already spoken on the public health laws enacted by the last General Assembly, and it is my purpose here today to dwell only upon the recent and proposed legislation affecting the medical profession directly. It may consequently seem that I am going beyond the province of my subject when I call your attention to the passage of such laws as the Birth and Death Registration Law, the act concerning the Prevention of Blindness and the new Anti-narcotic Law. But, the enactment of such measures has a very definite bearing upon the medical profession of the State.

For many years Illinois has stood as one of the very few important states without adequate birth and death registration. Illinois has borne the odium of being refused recognition by the United States Bureau of the Census as lying within what is known as the Registration Area, and the mortality and birth statistics of the state have not been accepted in any way throughout the nation. Unjust though it may be, this conspicuously unfortunate condition, has been attributed to a large extent to the indifference of the medical profession, with the result that the rank and file of Illinois physicians have suffered in the eyes and opinions of other states.

In the establishment of reciprocal relations in the matter of medical licensure, the State Board of Health has observed the feeling on the part of other state boards, that the standing of Illinois practitioners must be somewhat indicated by the absence of basic health laws on our statutes and the establishment of advantageous reciprocal relations has been made far more difficult on this account.

The new Birth and Death Registration Law can do a great deal to restore the medical profession of Illinois in the esteem of other states. The mere passage of this law, however, does not automatically place Illinois in the Registration



Area. In the opinion of officers of the federal government and in the opinion of health officers and vital statisticians, the new Illinois law is an excellent law and will warrant recognition of Illinois as a registration state, but before this State can be so recognized the Bureau of the Census must satisfy itself, by exhaustive investigation, that we not only have a good law, but that the law is being observed and enforced to such an extent that at least ninety per cent of all births and deaths are registered.

Hence, while it is unfair to charge the medical profession with the failure of the passage of a suitable Birth and Death Registration Law in the past, it is perfectly just to say that the recognition of Illinois as a registration state now depends upon the degree of thoroughness with which the physicians of the state carry out the provisions of the Act.

If, next September, when the investigation of the operation of the Birth and Death Law is undertaken by representatives of the Federal government, it is found that the law is not being generally observed and Illinois is consequently denied recognition as a Registration State then, it seems to me, that there will be some justification for the other states of the union and the other state licensing and examining boards to assume that the physicians of Illinois are indifferent to high medical standards and to efficient administration of those things which have to do with the health of the State.

One of the important provisions which the State Board of Health hopes to carry out in the future, is that of obtaining the privilege of reciprocity for the entire medical profession, so that the older physicians of the state may go to other sections of the country without prohibitive or embarrassing restrictions. But the establishment of a reciprocal relationship upon any other basis than recent examination, will, in a large measure, depend upon the development of a high degree of confidence between the reciprocating states and the advantages which will accrue to Illinois upon such a basis will depend to a considerable extent upon the opinion which other states may hold of the medical standards of Illinois.

I have spoken, in passing, of the act for the Prevention of Blindness, and at this time I want to correct some misapprehensions in regard to this law. The law does not make it obligatory to

use nitrate of silver solution or any other prophylactic in the eyes of the new-born child. It requires, however, that all cases of ophthalmia neonatorum be reported; that the attending physicians warn the parents as to the dangers of ophthalmia and that they advise the use of an efficient prophylactic. Beyond this the law cannot and does not require the physician to go.

I feel that you are all more or less conversant with the plans of the State Board of Health to bring about a thorough reorganization and readjustment of activities whereby the health functions will be separated from those of medical registration and licensure.

Within the past few years the demands upon the board as an examining and licensing body, have been such that the public health work has suffered materially. Constructive work in preventive medicine is without limit in its opportunities, and that state which devotes itself most actively to purely preventive measures will be the state which will suffer least from communicable disease. The meeting of emergencies and the suppressing of epidemics has become a matter of relatively small importance.

Hence, the State Health department should have the time to devote to deliberate and carefully planned health campaigns. Its activities should extend over 365 days in the year. The health work should not be sidetracked by any other functions which, while infinitely less important, must be performed in a definite time limit. On the other hand the work of medical examination and licensure is largely a clerical function which must be carried out within definite time limits, and the tendency of this licensing function has been to encroach more and more upon the public health function. As a result, it may be conservatively stated that at least seventy-five per cent of the time and energy of the officers and employes of the Illinois State Board of Health has been devoted in recent years to duties connected with medical examination and licensure.

It has been recognized for many years that the principle functions of the state board of health should be definitely separated so that neither should suffer by the encroachment of the other, and the plan now contemplated is to create two major departments and possibly three, in the State Board of Health, but each with its own commissioner and its own individual and separate existence.

A number of years ago it was advocated that a new board of medical licensure be created; that the State Board of Health retain the public health functions and that the licensing and examining functions be transferred to a new organization. I think you all recognize that such a plan is out of keeping with the ideas of economy and efficiency now adopted by the more progressive states. The tendency of the time is not to increase, but rather to abolish individual boards and to concentrate as many functions as possible under a single organization, these functions, however, being definitely divided and each under its own responsible head.

In the proposed department of medical examination and licensure, or as it should be known, the department of medical registration, it is expected to incorporate the examination and licensure of all practitioners having to do immediately or remotely with medical practice. This would include physicians, drugless healers or "other practitioners," graduate nurses, midwives, embalmers and barbers if the examination and licensure of barbers is continued in times to come. It is not intended that the establishment of such a department would do away necessarily with the Board of Examiners now engaged in the various phases of this work, but it would centralize the machinery of registration and minimize the clerical service required.

It is not possible for me at this time to go into detail in regard to those other laws passed by the Forty-Ninth General Assembly which have a bearing upon the medical profession as a profession. But in drawing your attention to the future of the State Board of Health in its relationship to the profession, I want to emphasize the need of certain new legislation which it is hoped may be enacted by the next General Assembly.

In my opinion there should be an amendment to the Medical Practice which will extend the privilege of reciprocity to all reputable and competent physicians. The injustice of the present situation is generally recognized. While it is admitted that the young man recently graduated from medical school is able to pass examinations in the elementary branches of medicine such as the older practitioner cannot pass or at least finds great difficulty in passing, it is nevertheless recognized by every intelligent person that the older practitioner is more competent as a physi-

cian than are most of the younger applicants for licensure.

Under existing conditions the younger and wholly inexperienced physician, granted a license by examination under the existing law, may go to almost any part of the United States through provisions of reciprocity, while the thoroughly established and experienced physician can make a change of location only with the utmost difficulty and by submitting to an examination in elementary subjects, the details of which have been almost wholly forgotten in the application of the practical knowledge of his profession. Under the present arrangement a man who had devoted himself to one of the special branches of practice, and who may have attained a broad reputation for his skill in that particular line, would be least prepared to pass the ordinary state examination which would naturally include all phases of medical education.

I think also that you will agree with me that there should be an amendment of the Medical Practice Act authorizing the revocation of licenses of physicians who are incapacitated for service by reason of alcohol or drug addiction, by insanity or gross immorality. Such a provision certainly would assist in elevating the standard of the medical profession and would afford to the public at large the protection from dangerous practitioners to which the people are unquestionably entitled.

There is also an urgent need for an amendment to the law which will permit the elevation of standards of examination for drugless practitioners and midwives. In my opinion the drugless practitioners should be required to meet the same preliminary educational standards required of physicians and they should be subjected to practically the same medical examination in all subjects included in the schedule of physician's examination, excepting, of course, materia medica and therapeutics, surgery and obstetrics.

Whatever our individual opinions may be in regard to the midwife, she is an established institution patronized by a very large percentage of the people and supported by a deep rooted prejudice which cannot be shaken loose at this time. The best that can be done with her in the present state of public opinion will be to elevate the standards controlling her practice so that her work may be safer in character and fraught with less danger of unfortunate results.



I feel that there is also a need for a provision in the laws which will permit the establishment of a year of hospital internship as the final year of the medical course. With the rapid advance of our knowledge of scientific medicine and the great increase in the application of technical methods in practice, internship is becoming much more important than it was regarded in years past, but at the present time the State Board of Health has not the power to make the interne service year obligatory or, in fact, possible.

From these provisions which I have briefly outlined and which we hope to see enacted, it is apparent to you that the chief aim is that the standards of the medical profession shall be elevated, not for the purpose of excluding individuals from the practice of medicine, not with the purpose of hedging in those physicians now in practice for the benefit of the profession, but that the standard shall be elevated for the welfare of the people of Illinois in whose behalf the Medical Practice Act and all medical legislation is primarily enacted.

#### DISCUSSION.

Dr. Earle: The vast majority of the men most competent to judge, maintain that scarlet fever is seldom, if ever, carried by a third person or adult who has not the disease. I believe that the regulation requiring adult members of a family in which scarlet fever occurs to remain away five weeks—adult members who perhaps are working in places where they do not come in contact with children at all—is an unnecessary hardship. And, unfortunately, that regulation in many cases is defeating its own object. Recently I was called in to a family with scarlet fever, where there had been a well marked case, unattended for a week, the other children were attending school and the mother said she did not want to call a doctor because she knew it was scarlet fever and the husband and workers would have to remain away from the house or quit work. Regarding the law requiring the registration of births, it seems to me that reporting directly to the State Board of Health would be much better.

H. W. Cheney, Chicago: I wish to protest against the 5 weeks quarantine as required by the State Board of Health. During the past few months we have had many cases of scarlet fever in Chicago and many of them have been mild, and at the end of three weeks or four weeks at the most, have been perfectly harmless, so that they may be taken safely again into society, because all desquamation has stopped and every other evidence of inflammation has disappeared.

Under the previous regulations of the Chicago Board of Health it was somewhat at discretion and many of those cases were allowed to go out of quaran-

tine at the end of three or four weeks. But now we find they must all be kept in five weeks, which I am sure is unnecessary and a hardship on many families.

C. F. Read, Peoria: I want to second every word said with regard to scarlet fever by the first speaker in the discussion. We only quarantine a small number of the real cases, but we defeat our efforts by making the quarantine so rigid that the doctors are not called in for many of the mild cases and the children continue in school just for fear of so long a quarantine, the fear for the bread-winners of the family.

William H. Maley, Galesburg: I too have a little feeling of opposition to the promiscuous method of the appointment of registrars. I come from Knox county and for several years past we always filed our births with the county clerk; there was no trouble about it and as far as I know I think we have recorded about 100 per cent of the births. And there was a little incentive to the physician to file his certificate there in that he got 25 cents for it. That may not seem very much, but a doctor who had 100 birth cases in a year was sure of his \$25.00. He had his expenses to the annual medical meeting provided for anyway.

As to the scarlet fever quarantine, I want to register a kick on that five weeks quarantine. There are cases in which we know that five weeks is a very unnecessary and silly hardship.

Dr. P. J. H. Farrell, Chicago: The suggestions made by Dr. Drake in regard to reciprocity are well considered. Those of us who have had experience, particularly with the older practitioners, wishing to register in other states, in western states particularly, realize what a hardship and inconvenience and unnecessary injustice it is to them, and with the state organization behind Dr. Drake, we will undoubtedly be able to start the ball rolling. My own experience as a state officer in California, for instance, brought that before me many times.

On the question of scarlet fever I believe that the State Board knows that there is no positive case of scarlet fever on record where the contagion has been spread other than by the infected individual. We compel an individual to submit to quarantine as it were when we call upon him for jury duty, but the county pays that man. If we insist upon quarantine in the case of scarlet fever, why not at least pay the bread-winners of that family?

Dr. W. F. Burres, Champaign: I think there has been some undue apprehension in regard to this prolonged term of quarantine. Formerly the reason that this legislation was enacted was because the state of Illinois had been exceedingly lax in its quarantine measures and it is barely possible that the board has gone to the other extreme in the effort to show to other states that Illinois was no longer going to be a plague spot. No doubt the State Board of Health will be glad to have these ideas suggested here and will be influenced somewhat thereby, but I must insist that the matter of quarantine has been shamefully neg-

lected in the state of Illinois, and while it might work a hardship on many individuals, yet the greatest good to the greatest number is the thing which always must be considered in the matter of medical legislation, and it is important.

You may know that the Supreme Court of Minnesota has decided that bad water supply or bad sewerage resulting in a contagious disease traced directly to a municipality, the municipality becomes responsible in an action for loss of time of the individual who gets the infectious disease.

In regard to the matter of registration, I apprehend that the reason that this was done was because, under the old law, physicians were absolutely and grossly careless; and it strikes me that the looking toward reciprocity with other states is one of the most important things for medical legislation, and it is along that line that action should be taken.

Dr. C. St. Clair Drake, closing discussion: I wish to say with respect to the new rules of the State Board of Health, for the control of communicable diseases, that we only are following the established and very best practice that prevails in the states of this union.

Up to February 1, 1913, there were absolutely no uniform laws for the control of communicable diseases in the state of Illinois which suffered the reputation throughout this country of being the plague spot with respect to communicable diseases. We had more in proportion to our population than any other state in this Union, and there was no necessity for such a thing. The first thing that the present board did was to study the situation and try to frame rules that were reasonable and in accord with the best practice now prevailing.

I believe that the Board of Health would be pleased indeed to see this society appoint a commission of physicians who are competent to assist us in framing new rules that would be in accord with the very best practice. We do not want to force any unnecessary rules upon you or upon the people of this state. We are only doing what other states are doing in order that we may hold our own among them.

I want to say about the scarlet fever quarantine of five weeks, it is an arbitrary rule and possibly not necessary, but every epidemic situation that we have had to contend with was the result of a three weeks quarantine. Some of these epidemics amounted to five or six hundred cases before we assumed control. We went in and imposed a five weeks quarantine. When we found that we could not get that control by ordinary persuasion we did not hesitate a moment to arrest violaters in the town, and we picked the biggest men, the biggest citizens of the town, and not the poor man and poor struggling physician and after we did that, invariably inside of ten or twelve weeks we were out of the town, the epidemic was abated and it never would have been controlled otherwise, I believe.

I will agree that a third party possibly will not convey the infection, but we cannot be too far in advance of other states in that respect, for the state or the man who is twenty years ahead of his time, is

just about as useless to the community as the man who is 20 years behind his time. We have got to move rather conservatively.

Speaking of the birth and death registration; the old act was passed upon by three different administrations of the federal government and invariably condemned as insufficient to the needs of this state. The new act has the endorsement of the federal government. The director of the census has passed personally upon the bill after an exhaustive study of it and says that it is the best piece of legislation of the kind in vogue in the entire United States. I recognize the fact that it has some shortcomings. The appointment of registrars was a difficult thing indeed without imposing a very heavy tax upon the people of the state. We had to use the existing machinery and we used the town clerk's. As to the doctor's fee for reporting births and deaths, I don't believe that any serious minded man will contend very strongly for the measly fee of 25 cents for making a document that may be worth thousands of dollars to his client, and for which he is giving a sufficient amount of time to demand at least \$2.00 from his clients for the service. Formerly it was held by the courts that we could not compel service from a physician or anyone else without remunerating them for that service. More recently the courts have held to the contrary and there has been no piece of legislation of this kind passed in the past ten years that provides for compensation for reporting births and deaths. Therefore we are again only in accord with the best modern practice.

Just another point about the epidemics of scarlet fever and the control of contagious diseases.

I think too many doctors look to desquamation as a symptom and a sign for the time to terminate scarlet fever quarantine. The board cannot possibly consider the ceasing of desquamation as the time for terminating quarantine. There are many cases in which there is no desquamation. We do not know and I do not think any of you know just how long scarlet fever is contagious. We do know that there are 2 per cent. of return cases after raising quarantine in five weeks, and some states are enforcing a six weeks quarantine in view of that fact.

## SURGERY OF THE COLON, AS APPLIED TO INTESTINAL STASIS.\*

A. J. OCHSNER, M. D., LL. D., F. A. C. S.,  
CHICAGO.

*History.* The history in patients suffering from intestinal stasis is of the very greatest importance. Usually the fact which stands out most prominently in the history, and which is constantly repeated by the patient, is that there has been long continued inability to have normal evacuations of the bowels. In a large proportion of these, this condition can be traced back

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



to childhood and often to infancy if it is possible to get reliable information from the patient's mother. In a considerable proportion of these patients, the fact can be elicited that during infancy the patient suffered greatly from gaseous distension. This would account for the stretching of the peritoneum covering the intestines and for the stretching of the mesentery and for the consequent enteroptosis. In a considerable proportion of cases again, the patient has suffered for many years from nausea following the taking of food, and in many cases from an abhorrence of food. Occasionally this is accompanied with a feeling of heaviness or pain in the region of the cecum, probably due to the presence of foreign material in the appendix. The patient usually reports temporary relief from this condition as a result of changes in diet and of the use of cathartics or mineral waters. But there is never any permanency in this relief.

*Physical Examination.* Upon physical examination one can usually demonstrate an abnormal condition of the skin, which is usually dirty, more or less discolored and oily, and never smooth and normal. The patient is badly nourished, and if there is a fair amount of fat present, this is soft and flabby and badly distributed over the body. The muscles are weak and flabby. The patient's resistance is impaired and he is unable to use his muscles to a reasonable extent. These patients are practically always nervous, irritable and have commonly a neurasthenic condition. The circulation is impaired and the extremities are cold and clammy. A physical examination of the abdomen will convincingly demonstrate the presence of enteroptosis. Much has been said concerning the abnormal number of bacteria found in the intestinal canal of these patients, but the bacteriological examination itself is of no value for diagnostic purposes.

For a number of years the x-ray examination has been given much prominence. When there has been marked displacement of the colon, or an incompetence of the ileo-cecal valve, or an evident dilatation or elongation of the sigmoid flexure, when viewed through the fluoroscope or examined by means of x-ray plates, the clinician has looked upon these conditions as unquestionable evidence of marked intestinal stasis. In order to determine the value of these findings, we have examined an enormous number of patients who were evidently suffering from intestinal

stasis, as well as a large number of cases that were perfectly normal, and another series of cases in which the patients were suffering from diarrhea. The following illustrations will serve to demonstrate the results of this investigation.

No. 1 shows the colon with rather a low hepatic flexure and a sharp turn at the splenic flexure and an enormously enlarged sigmoid flexure. This plate was taken without giving the patient atropin.

No. 2 shows the same patient twenty minutes after having been given 1/50 of a grain of atropin hypodermically. In this plate the cecum is greatly over-distended. The transverse colon has dropped down markedly and the sigmoid flexure is distorted, while the dilatation is confined to the upper portion of the rectum and the lower portion of the sigmoid flexure.

No. 3 shows what was at one time considered a normal position of the colon with a high hepatic flexure which dips down toward the pelvis before the transverse colon begins its course toward the splenic flexure. The sigmoid is again enormously distended.

No. 4 shows almost the exact duplicate of this, with chronic diarrhea.

No. 5 gives almost exactly the same position with a still further exaggerated dip beyond the hepatic flexure of the colon in a patient who is perfectly normal regarding the action of the bowels.

No. 6 shows an enormously distended cecum and transverse colon with a small descending colon and a somewhat dilated sigmoid. There is a marked dip of the transverse colon before it finally ascends to the splenic flexure.

No. 7 shows apparently the same condition with the dip of the transverse colon before it ascends to the splenic flexure. This patient is suffering from diarrhea. Had he suffered from chronic constipation one would at once have attributed this condition to the dilated sigmoid.

No. 8 shows a dip at the hepatic flexure of the colon and a greatly distended sigmoid flexure. This patient is perfectly normal concerning the intestinal stasis.

No. 9 shows a dilated cecum and greatly dilated, elongated sigmoid. This patient is suffering from constipation.

No. 10 is almost an exact duplicate of number 9, the patient suffering from chronic diarrhea.

No. 11 has an enormous dilatation of the cecum and transverse colon and sigmoid, while the descending colon is perfectly normal.

No. 12 shows quite an extraordinary dilatation of the descending and transverse colon. The condition of the sigmoid is not very plainly shown. In this case the condition of dilatation would readily show chronic constipation.

No. 13, however, shows almost an equal amount of dilatation of the ascending colon and greater dilatation of the sigmoid, and still this patient is suffering from chronic diarrhea.

No. 14 shows a fair amount of dilatation of the ascending colon, a marked dip beyond the hepatic

flexure, a great amount of dilatation of the transverse and descending colon and sigmoid, and a distension of the small intestines, showing that there is present an incompetence of the ileo-cecal valve, permitting the contents to back up into the small intestines.

No. 15, an enormously distended ascending colon, a moderate dilatation of the transverse colon and sigmoid flexure, and an incompetence of the ileo-cecal valve, and in this case the presence of chronic constipation might be expected from the x-ray findings.

No. 16 shows a condition almost exactly like No. 15, but here we have a condition of chronic diarrhea.

It is perfectly plain that any observer, without regard to the amount of experience he might have had in reading x-ray plates, would be entirely at sea were he forced to depend upon these x-ray findings as a basis for his diagnosis. When done in connection with a carefully written history and a physical examination, these x-ray findings, however, have a certain degree of confirmatory value.

As a matter of fact, however, their chief value lies in their ability to visualize a condition so that the patient and especially her friends can be convinced of the necessity of operative interference. There can be no doubt that innumerable useless and harmful operations have been performed because the surgeon or his patients or both have been deceived by the apparently perfect demonstration of the presence of intestinal stasis by means of x-ray plates similar to those illustrated above. And the chief object of showing this group of plates is for the purpose of demonstrating their absolute unreliability.

Intestinal stasis undoubtedly occurs in patients in whom there is a mechanical condition which prevents the normal passage of intestinal contents through the colon, or from the small intestines into the colon. This may be due to bands of adhesions such as are present in Lane's kink, in Jackson's membrane, in inflammatory adhesions following peritonitis caused by infection from the appendix, from the fallopian tubes, from the gall bladder, or from stomach or duodenal ulcers, or from typhoid ulcers. Or it may be due to pressure upon the intestines as in the presence of tumors or displacement of the uterus. Or it may be due to inability of the intestinal canal to get the necessary support because of the presence of elongated mesenteric attachments.

When there is a mechanical reason for the intestinal stasis, this should, of course, be removed by means of surgical interference. On the other hand, if the condition is due to a long continued

over-distension of the intestine or an elongation of the mesenteric attachment, it is not likely that much permanent benefit can come from any of the various operations that have been proposed for the relief of this condition.

In our personal experience, which has now extended over a period of nearly seven years, we have been convinced of the correctness of this statement. I am convinced that the vast majority of patients who are clinically suffering from a condition of intestinal stasis, can be relieved by a complete change in their habit of living, by physical exercises and general hygiene, and a systematic use of proper remedies, but this must be carefully studied and carefully carried out, because the vast majority of patients suffering from intestinal stasis are constitutionally organized so that, unless they are under constant supervision regarding all of these details, they are not at all likely to obtain permanent relief. But this is also true in case they are treated surgically; only in that instance their condition is practically always made worse by the surgical operation as soon as its novelty has worn off.

No patient suffering from intestinal stasis should be considered surgical unless every effort has previously been made by a competent physician to relieve the condition of stasis by means of dietetic, hygienic and gymnastic methods together with the use of carefully selected remedies, of which the mineral oils have proven most satisfactory in the use of our patients. When the surgeon has come to the conclusion that the stasis cannot be overcome without surgical interference, he should first make sure that this will not also be true after the proposed surgical treatment. In neurotic patients, as a general rule, surgical interference will be of value only temporarily. In a short time after the operation the same neurotic condition will return and the patient will again suffer the same degree of stasis. Consequently, the patient will not have profited and surgery will have suffered unnecessarily. On the other hand, if the neurotic condition is plainly the result of the stasis, then an attempt should be made for the relief of the stasis.

During the past year, I have performed an operation suggested by Dr. Wm. J. Gillet, of Toledo, Ohio, which, from the theoretical standpoint, seems to promise more than any of the other operations that I have employed, but the period



of time which has elapsed since the operation is so short that it is not possible to speak of permanent results.

The operation consists in severing the ileum at the most convenient location to make an anastomosis with the lower end of the sigmoid flexure of the colon; then to make a section of the sigmoid flexure at this point and anastomose the ileum with the lower segment of the sigmoid flexure and to pass the upper segment through a buttonhole in the anterior abdominal wall on the left side, making

rectal tube is carried up into the ileum at the time of the operation so that there can be no obstruction at the point of ileo-colostomy, and so that the normal salt solution may be administered by means of the Murphy drip directly after the operation, which eliminates shock and supports the patient. I believe that this method is worthy of trial.

### TRAUMATIC HERNIA, SO-CALLED,

C. W. HOPKINS, M. D.,  
CHICAGO.

In the discussion of "Traumatic Hernia," the inguinal type being the most common, we at once assume that indirect inguinal hernia is what is meant, when the subject is presented. This is the type of hernia that is giving us all more and more concern, by the increasing number of claims of injury that are presented to us by a certain class.

There, perhaps, has been no time in the history of railway surgery when so many claims have been made on account of alleged traumatic hernia as right at the present, and there is seldom a time when a railway company is not taking care of a score of so-called traumatic hernia cases among their employes and patrons. Willing as the company is to do justice to these cases, the interesting standpoint to them lies in the prevention of fraud and abuse of their good will.

It is not my intention to consider any of the conditions which involve a loss, destruction, or solution of continuity of the tissues or of the abdominal wall where there is prima facie evidence of a traumatic lesion, but to limit this discussion to the consideration of the most common hernia, the oblique inguinal. When I term the oblique inguinal the most common, it is based upon the observations of Professor Paul Berger, who in thirteen thousand four hundred and eighty-three herniæ, found twelve thousand two hundred and eighty-three of this type.

If you will refer to some of the older writers, especially the German, you will find that they consider true traumatic hernia to be one of the rarest conditions to be met in emergency surgery. The chief surgeon of the German Bureau of Labor has written a book on the workings of that society or association of trade, in which they have made exhaustive studies of all of these various injuries, and estimated the percentage of

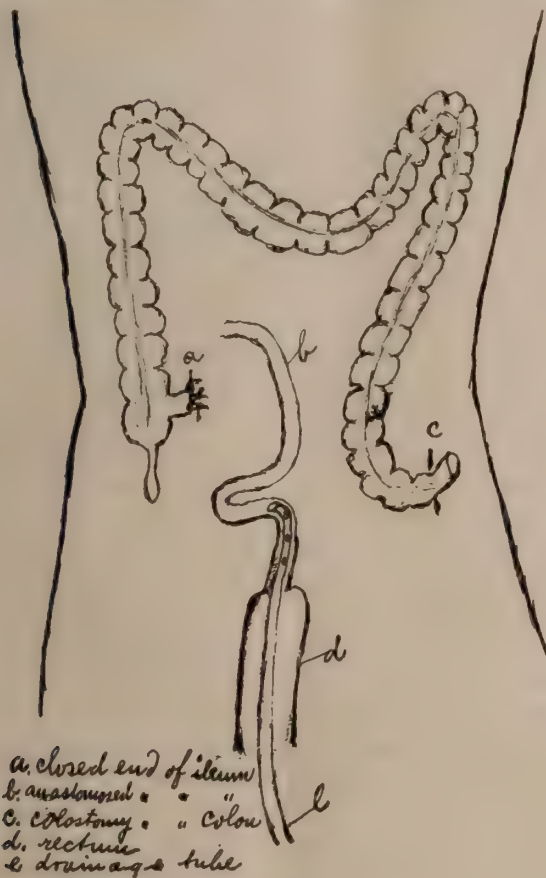


Fig. 1. The Gillet Operation.

a permanent colostomy at this point. The distal end of the ileum is then closed and dropped into the abdominal cavity. The operation is performed through a low median incision. In this way the colon is not disturbed by the operation, the omentum remains in place and what little mucus accumulates in the colon can readily be washed away by giving an enema through the colostomy opening once a week. This opening can also be utilized directly after the operation for the purpose of proctoclysis. A

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

disability which such injuries or deformities occasioned. In this book the subject of inguinal hernia is very thoroughly discussed by the author, and he considers traumatic hernia to be such a rare condition that he recites in detail only two cases conceded by him as being primarily or directly traumatic hernia.

The Germans classify the subject of hernia in this way: hernia occurs at a defective point; a trauma is very rarely the cause of this weakness; on the contrary, it is practically always congenital, in which instance the trauma, to use the language of the author mentioned, "is the means of the discovery rather than the cause of the hernia."

The Germans make a shade of difference in the forms of traumatic hernia, and distinguish them as "True Traumatic and Accidental." In the former, the blow or strain has been such as to force the hernia through the peritoneal covering, and in the latter the peritoneum is carried ahead, but both must remain under the general appellation of traumatic hernia, as they only represent a degree in trauma.

Personally, the more I see of these cases of so-called traumatic hernia, with the alleged ease of their acquirement, and with the absence of the symptoms that should have presented at the time the hernia is said to have been received, the more firmly I am convinced that the actual occurrence of true traumatic hernia, in the average individual who comes before us, is rarely, if ever, seen.

Men of various occupations, in railroad work in particular, come to you three or four days, or a week or even two weeks or longer, after an alleged injury, and claim that the hernia was acquired at the time of a "strain," a misstep, a squeezing, an overlifting, a fall, or even a blow, and state that they did not notice the hernia at the time and not until some hours or days later, or perhaps while in the bath. They will further state that they did not feel any pain at the time of the supposed accident, nor was there any shock or vomiting, or disability, and in fact they had lost no time from the date of the alleged acquiring of the hernia to the time they report to you. They will also state that they never noticed this swelling before, and are quite certain that the cause they allege must be responsible for it.

When you examine them, you will find in the majority of cases a well developed hernia, sometimes even with old marks of a truss, and many times a scrotal hernia of large size. During the

examination you discover no soreness in the parts, no ecchymosis, no effusion into the tissues, nor the least tenderness upon palpitation or rigid examination. The patient himself will assist you in reducing the hernia in the most expert manner. It is easily reduced and readily returns upon standing, without pain or discomfort. In a large majority of cases, you will find a large patulous ring on the opposite side, and upon close examination of that side you will also find an impulse upon the examining finger when the individual coughs.

Even when the case is examined but a few hours or days after an alleged injury, and with the vague history and lack of acute symptoms, and in spite of the fact that you are sure, when taking the real cause into consideration, that the condition is an inherent one, it is useless to try to convince them that every man who develops this condition was born with a hernial canal. If you do undertake to convince them that the condition is an old one, of which they are well aware, they will leave your office and go to their family physician, who will often agree with them in every detail, and back them up, even upon the witness stand, testifying that the alleged hernia could have occurred and actually did occur as the patient claims, regardless of the absence of any accompanying symptoms that should necessarily have been presented when true traumatic hernia occurs.

There are, no doubt, cases of true traumatic hernia, but in railroad surgery in particular, where we are called upon to care for patients who have received falls or squeezings through the abdomen and pelvis, causing most extreme intra-abdominal pressure, sufficient to cause rupture of the bladder, kidney, liver, intestines, or to crush the pelvis, why is it we never find inguinal hernia as a concomitant, unless the injuries were probably of sufficient severity to cause death?

Taking into consideration the fact that there are thousands of men of all ages, who are engaged every day in occupations requiring heavy lifting, hard straining, or are engaged in acrobatic work, which frequently calls for the most strenuous efforts and muscular action, particularly of the abdominal muscles, and who sustain severe falls, why, if extraordinary muscular effort or great intra-abdominal pressure are the chief causes of hernia, are not all of these men victims of hernia? Nevertheless, the average individual expects the



surgeon to believe any statement he wishes to make, and will try to convince him that a well developed hernia, with the necessary sac of peritoneum, reaching well down into the scrotum, occurred but a few hours or days before and without any marked symptoms, and with no disability on his part up to the time he comes for examination.

One interesting phase of this claim of traumatic hernia is that we find in men, such as engineers, conductors, firemen, brakemen, crossing flagmen, section foremen, special police, and the dining car employes of a railroad, who have passed an examination before entering the service, that the claim of traumatic hernia amounts to less than one per cent. On the other hand, the foreigner, such as the Greek, the Italian, the Pole, and other men who do not pass the preliminary examination before being admitted to the service, comprise ninety-nine per cent. of the cases of alleged traumatic hernia that present themselves to you. I feel sure that the one per cent. of the men who do appear with so-called traumatic hernia, who have been examined for service, had enlarged rings with a preformed sac that could not be felt or demonstrated at the time of the examination, or the examination was carelessly made, or we would not have had them before us with a subsequent hernia.

As to the frequency of hernia among foreigners, I wish to state that two years ago, when the law for monthly examination for occupational diseases of the men who were employed in the paint shops and other departments of a certain plant, where chemicals were used, went into effect, the first examination of one hundred and sixty-eight men revealed the fact that forty-eight of them had either single or double hernia of long standing. All of these men were foreigners and entered the service without examination, and I am satisfied that if during their term of employment before this examination, they had sustained any kind of an injury, they would have claimed, without a doubt, that the hernia was received at that time.

It is a known fact that a certain prominent surgeon in Chicago, who does the medical and surgical work for a Greek society, performs more operations for the cure of hernia in one particular hospital than the rest of the entire staff combined. Whether the people from southern Europe inherit this weakness, or whether it is due to their habitual wearing of belts is a matter of

discussion among some of our most prominent writers on the subject. In my own experience in railroad surgery, my files disclose that the vast majority of operations performed for hernia are among this class of European laborers, and my observations would lead me to believe that the condition is a congenital one or an inherited weakness of the parts.

When most of these cases of alleged recently acquired traumatic hernia are placed upon the operating table and are thoroughly relaxed, with the parts exposed, we find very thin oblique muscles and a very thin transversalis fascia, with the fibers very loosely placed together, and with very large open rings. There may be an absence of the normal conjoint tendon and normal external ring; in its place we find a long triangular slit. Many times it is necessary to handle all of these tissues very carefully to get even a fair amount of good tissue with which to remedy the congenital defect sufficient to prevent recurrence. In some cases it is even necessary to use a part of the sheath of the rectus muscle or to transplant a portion of the fascia lata.

There is no induration or effusion into the tissues, but a smooth, tough, elongated cul-de-sac, snugly lying along the cord, closely covered by fascia throughout its entire length, and in many instances a certain amount of omentum or bowel lying within the sac and perhaps adherent to it throughout its entire length. These structures you are compelled to carefully loosen from the sac wall before they can be reduced, and where only peritoneal fat fills the sac, it is sometimes easier to ligate and remove it with the sac. There are cases, as you know, where we find a hydrocele of the cord, which you are compelled to open and drain before the true sac can be found and separated out. There are other cases where you will find a well defined double sac, called the pantaloon sac, and occasionally three sacs coming off from the base at the internal ring. Many of these cases you will probably operate upon forty-eight hours after the alleged injury, finding the above conditions, and in spite of the claim of recent injury, you do not find any extravasation of blood or serum, nor the slightest laceration of tissue. You do find, however, a smooth, tough, adherent sac you are sure has existed from birth, and has depended upon a series of repeated blows or impulses by the abdominal contents in forcing themselves down into the canal, carrying the al-

ready preformed sac ahead of them, and which was ready for some unusual force to bring them a little further down, sufficiently to make themselves apparent and to cause more or less discomfort by being forced a little beyond the long existing, slowly acquired beaten path.

Within the last few months I have had three patients in particular with alleged traumatic hernia, supposed to have been received but a few weeks prior to my examination and operation, and who claimed to have received the hernia while lifting a can of milk, or while using a crowbar, or while lifting a handcar. None of these men had taken the preliminary examination for the service. Upon operation I was unable to find any external or internal ring or any well defined sac, but did find a large general bulging of the whole abdominal wall on that side which showed that the entire canal had been obliterated by the general weakness of the entire abdominal structure, forming one large opening, allowing the formation of a large peritoneal sac or pouch, the contents of which had to be reduced and the sac or pouch ligated in sections, and the entire abdominal wall in that locality rebuilt to obtain any kind of a result. These cases all claimed to have been injured but a short time previously, and still there was not the least sign of recent injury, nor had there been the necessary symptoms which would have been present if the condition had been created at the time alleged by them.

In connection with the cases just mentioned, I will relate an amusing circumstance which occurred recently when about to operate upon a Greek, whom I had sent to me at Chicago to be operated upon for hernia, which was supposed to have occurred about one week previously. When the case was reported to me by the local surgeon, I wrote back and stated that, from the facts in the case I was certain that it was a case of old hernia and directed that he be sent to me for examination and operation. When about to operate I informed the patient that I had found a hernia on both sides, and that I would correct them both at the same time. Although there was a hernia fully as large on the right side, he strenuously objected to the operation on that side and wished an operation on the left side only. When the sac was exposed it was found to be very large, thick and tough, and, as mentioned by C. H. Mayo, of heavy fibrous bands, which is a positive proof of a sac of long standing. After the operation was

finished, and while he was coming out of the anesthetic, his straining and coughing produced a condition on the right side which was equally as large as the one I had just corrected, and upon which he would not permit an operation. After returning to the office I ascertained that this man had been in the service but a short time, and as I have him on record as having the other hernia, which he would not permit me to correct, we will in all likelihood soon find him in a hospital of another railroad, being operated upon for an old hernia which he has compelled them to pay for.

We have learned, especially during the present war, that the Germans are a very efficient and painstaking lot of fellows, with the greatest observance of detail, and it has been decided by the surgical staff of the German army that unless a man had witnesses to his accident, and had presented certain symptoms, and was immediately disabled, the claim of traumatic hernia would not be recognized or allowed. On this side, however, there are many surgeons who still claim that a man can receive traumatic hernia, yet present no symptoms, such as shock, vomiting, pain, etc., and that he can work continuously, after the alleged receiving of the hernia, up to the time he presents himself for examination or operation, and will give him a certificate to his employer to that effect.

In the present state of chaos, however, which now exists, on account of the various opinions and contentions, it has been considered best, by most employers, to have these cases operated upon as the best means of settling a difficult matter, because there are any number of would-be experts who will take the stand and swear to the possibility of a large hernia being acquired in the manner and at the time it is alleged by the patient. It also seems to be a settled fact that the claimant will be given a verdict by the average jury, regardless of the merits of the case, or the facts presented by the defense, and as the matter now stands it would entail much fighting and undesirable advertising.

It is being allowed by the courts and by the Workmen's Compensation Act every day. Consequently, the larger corporations are beginning to examine every man already in their employ, to obtain a record as to his physical condition, and are demanding that every man who applies for employment be examined before being put to



work, so that they can protect themselves against this claim for traumatic hernia which is being made against them, when in many instances there is not the slightest history of any injury to the employe or even a record of any accident. The matter has got to be definitely settled one way or another sooner or later. No corporation, or combination of corporations or insurance companies, will be able to settle it, but it will have to be settled by the law after it has been threshed out sufficiently to convince the lawmakers of the real conditions and facts. If this is not done it will certainly ultimately work a hardship upon the very man that the law is seeking to protect, as the average workingman or laborer, who has hernia, will be either eliminated or kept out of employment. This same man, who is usually the laborer, rarely has sufficient money ahead to pay his expenses at a hospital and to have a competent surgeon for an operation, and the only results that I can see is that they are bound to overload our public institutions, increasing the burden upon the tax payers in order to correct an old inherent condition so that they can obtain employment and become self-sustaining.

Every one of us is familiar with the embryonic formation and placing of the testicle in its proper position and how nature is supposed to close the ring about the time of birth, and how she sometimes fails, as is proven by the development of inguinal hernia in children only a few weeks or months old. If this is fully understood it certainly does not seem difficult for us all to see why a man develops hernia, and that every man who does develop hernia in later life must have been born with a hernial canal, only waiting for the proper time and condition to make its appearance, and for which the employer or insurance company would be expected to pay, and for which they should not pay any more than they would be expected to pay for protruding hemorrhoids, which we know take certain conditions and time to make their debut into the outside world.

Many surgeons have gone so far as to invariably operate upon both sides, when a case of hernia comes to them, even when nothing more than a large patulous ring is to be found on the other side, and, without exception results show that they have been justified in the procedure. Since January 1, 1915, I have operated upon both sides, numbering about 100 cases, when the patient could understand English, and the conditions

were fully explained to him, and even on the side which presented no symptoms other than a patulous ring, I have found a well marked, pre-formed sac, in many cases with the omentum or bowel strongly adherent throughout the entire length, waiting for some unusual impulse to bring it down, and which would no doubt have been considered traumatic hernia.

In cases of foreigners who could not speak English, I have merely operated upon the one side, for these cases would have considered the road responsible for a double hernia, if both had been operated upon, even when they had made no complaint of the other side.

I have taken the liberty of incorporating in my paper the ruling of the Nevada Industrial Commission, dated September 23, 1913, on the subject of hernia:

Medical science teaches and has taught for the past twenty years that which is now accepted as a medical and scientific fact, corroborated as such by the foremost surgeons and anatomists of the world, that is, that hernia (or so-called rupture) is a disease ordinarily developing gradually, and which is very rarely the result of an accident.

With the object of treating the subject of hernia justly to both employer, and employe and in accordance with medical and scientific teachings and facts, the commission rules as follows:

Rule 1. Real traumatic hernia is an injury to the abdominal (belly) wall of sufficient severity to puncture or tear asunder said wall, and permit the exposure or protruding of the abdominal viscera or some part thereof. Such an injury will be compensated as a temporary, total disability, and as a partial, permanent disability depending upon the lessening of the injured individual's earning capacity.

Rule 2. All other hernias, whenever occurring or discovered, and whatever the cause, except as under Rule 1, are considered to be diseases causing incapacitating conditions or permanent, partial disability. But the permanent partial disability and the causes of such are considered to be shown by medical facts—to have either existed from birth; to have been years in formation and duration, or both, and are not compensatory except as provided under Rule 3.

Rule 3. All cases, coming under Rule 2, in which it can be conclusively proven; 1, that the immediate cause, which calls attention to the presence of the hernia, was a sudden effort or severe strain or blow received while in the course of employment; 2, that the descent of the hernia occurred immediately following the cause; 3, that the cause was accompanied, or immediately followed, by severe pain in the hernial region; 4, that the above facts were of such severity that the same were noticed by the claimant and communicated immediately to one or more persons are considered to be aggravations of previous ailments, or

diseases, and will be compensated as such for time and loss, and to a limited extent only, depending upon the nature of the proofs submitted, and the result of local medical examination.

The foregoing is stated to follow rulings in Ohio and Washington. The matter is important, as under the English law there has been the greatest difficulty over this subject.

This subject is assuming such importance on account of the increasing frequency of these claims, especially in laborers from European countries, that I am keeping a record of all our hernia cases which will include among other things, nationality, age, occupation, alleged cause of injury, and condition of rings on the opposite side. From this I hope at some future time to obtain statistics which will be of value.

#### APPENDICITIS FROM THE STANDPOINT OF THE ORDINARY SURGEON.\*

CLARK A. BUSWELL, M. D., F. A. C. S.,  
CHICAGO.

We realize in presenting a paper on appendicitis that it will be an old, old story, as our literature already contains a greater volume on this than any other subject, and as our statistics must come from our star performers, or those whose cases number in the thousands, you must not look for new revelations. Yet our object is two-fold. First, that these star actors (our teachers) may have an opportunity to see the results of their work and have an opportunity to criticise. Second, that the large number of surgeons who have not enough cases for statistics may find some helpful hint and encouragement.

The most important feature of this subject is to be able to make your diagnosis and make it early. No doubt many patients have been subjected to operation unnecessarily which could have been avoided if more care had been used in examination and study of the case. In our series of cases we have always made it a rule that if we were unable to make a diagnosis with the first examination the case was not so serious but that it could wait for further development.

The cardinal symptoms of acute appendicitis should always be kept in mind, namely: 1, pain; 2, nausea and vomiting; 3, fever; 4, localization of pain in region of appendix; 5, rigidity of

muscles; 6, leucocytosis. Any one or all of these may be varied according to the severity of the attack, temperament of the patient, etc.

The first pain usually complained of is in the epigastric region, around the umbilicus, or in the region of the stomach. This may vary from a slight colicky condition to the severest cramps, which after a period of several hours localizes in the region of the appendix. The nausea may be slight or intensified to vomiting. If vomiting occurs, the vomitus is usually of the stomach contents and rarely of liver secretions. It always appears shortly after the first attack of pain.

The fever, if found, is slight and, like nausea, has no bearing on the severity of the attack.

The localization of pain at McBurney's point, intensified by palpitation and muscular contraction while the right leg is flexed and extended, is far the most important symptom.

Leucocytosis is looked upon by a great many as of little or no value. However, it has been our experience that leucocytes of 12,000 or over is a very good signal for trouble ahead.

In chronic appendicitis the picture may be greatly varied. A large number of cases may have recurrent attacks with the repetition of the cycle of symptoms as mentioned above, each attack being more pronounced and severer than the preceding one.

Another class and perhaps the most difficult may have many variations of the cycle with only one or more of the symptoms present. Usually a careful review of the preceding attack will reveal an atypical cycle of symptoms. The temperament of the patient should always be taken in consideration.

Slight appendicular inflammation may be accompanied with alarming symptoms in hysterical patients or those who are physically below par. Also those who are able to stand hardships may have slight symptoms with an alarming degree of inflammation. A frequent symptom of chronic appendicitis is the digestive disturbance. This may affect the stomach alone or any part of the intestinal tract. Chronic indigestion, especially of young adults, may be caused by an inflamed appendix. Many of these cases have been treated for months or years without relief until they fall into the hands of a surgeon. The same is true of those suffering from some forms of constipation and abdominal tympanitis.

The symptoms are also varied as to the position

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 18, 1916.



of the appendix; a retrocecal appendix bound down with adhesions may cause the principal symptom to be an intense backache. If adherent to the right ovary or gall bladder the symptoms are complicated with the inflammation of these organs.

The differential diagnosis of appendicitis furnishes a subject for the most careful examination.

A movable right kidney may give symptoms of appendicitis but can generally be differentiated by bi-manual palpation, when the kidney tumor will readily slip between the examiner's fingers, thus enabling the definite localization of the pain. (It should also be borne in mind that 80 to 90 per cent. of women having movable right kidney have chronic appendicitis. Edebohds: Post Graduate, Feb., 1899.)

Stone in right kidney or ureter may also be differentiated by examination of urine, the x-ray and character of pain.

In intestinal obstruction the rise of temperature occurs late, and stercoraceous vomiting is observed in severe cases.

Typhlitis is characterized by the gradual onset and prolonged convalescence. Tubercular typhlitis in addition to the above will have the characteristic temperature of tuberculosis; also may have diarrhea.

In malignant tumors of the intestines, the patient is usually past middle age and has the characteristic cachexia. The tumor is also slow of growth.

Infections of the pelvic organs may be located by vaginal examination, yet one must bear in mind that this infection readily extends on to the appendix and is a complication in many cases. Infectious inflammation of the gall bladder and ducts is diagnosed by the onset, location and character of pain.

Extra-uterine pregnancy; by the usual signs of pregnancy, with the presence of tumor before the rupture.

Duodenal ulcer; history of periodic attacks with relief with alkalines and bland food.

After the diagnosis has been made, the young surgeon especially will find it a difficult matter to convince the patient that an operation is necessary. In slight attacks of appendicitis one cannot say that it is absolutely necessary to save the patient's life to have an operation, yet this is the question often asked you. I believe the only way to handle a condition of this kind is to be abso-

lutely fair, that is, honest with your patient and yourself. Most people are acquainted with the necessity of an operation, sooner or later, but no surgeon can be absolutely sure as to what the outcome will be with or without operation, but we can tell them that the *safest* way is to have an immediate operation. We can only quote to them statistics as to what has happened which will be unnecessary to repeat here.

After the patients have become thoroughly acquainted with the facts of their condition we can only proceed as far as their consent will permit. We have invariably made it a rule, should these patients refuse to take the course of least danger, namely, operation, to impress them with the fact that they are assuming the responsibility.

In the severe attacks we have made it a rule to so strongly insist on operation that the patient will either consent or employ some one else who will be willing to take the risk.

Medical treatment, I presume, should not be considered before this section, yet we often find it necessary to employ it. In our hands we believe the modified rest treatment has given us the best results. This consists of putting the patient to bed with no food or fluids given per mouth for the first twenty-four or forty-eight hours. The application of ice over the region of the appendix, enemas given at repeated intervals of two to four hours. At the end of twenty-four or forty-eight hours a limited amount of water may be allowed. Later it may be increased with some nourishing fluids, should the symptoms indicate that the inflammation is subsiding.

Normal salt or glucose solution, drop method, may also be employed if the patient should show signs of weakness. We believe it is safer for the patient whose system is not depleted of fluids to too great an extent, for, in case of operation, if necessary, on the third or fourth days, they are better able to stand the shock. A daily leucocyte count will be a great aid in determining the progress of the inflammation.

The young surgeon should not attempt an operation until he is thoroughly prepared to master all the emergencies that may arise. This is true of all operations as well as appendicitis.

Trained assistance is one of the essential preparations. I do not believe it is advisable to change assistance frequently as we are often compelled to do in many hospitals. This can be overcome, if one has not enough work to keep a private as-

sistant busy, by associating himself with some surgeon who would be glad to exchange work with him. Team work not only helps to share the responsibility of the operation but will give the patient the best results. The time for the operation will be greatly diminished and in case of anxiety and strain the operator will have a check on all his work.

After using various incisions for this operation we find the right rectus and McBurney gridiron incision to be the most popular in those cases that have not yet formed an abscess. Of these two the right rectus is used most frequently, especially in women, since it permits of a thorough examination of the abdomen. We believe it is especially important that a thorough examination of the abdomen should be made when it is opened, providing this can be done without danger of spreading the infection. If other pathological conditions are found they should be taken care of before closing.

When the appendix has been located it should be brought up into the field of operation with as little trauma as possible. To do this it is often necessary to sever the adhesions, ligating the larger ones. Care should be exercised to detach the appendix, all the way back as far as its root. Its mesentery is now tied off. After this ligature is tied the appendix is then cut away from the mesentery. If the mesentery is unusually broad several ligatures may be used. Next the purse string suture is started near and under the mesentery side of the appendix, then extending it around the appendix about one-fourth of an inch from its root; taking firm bites in outer walls of cecum, the last bite extending under the mesentery portion overlapping the first bite taken. The appendix is now clamped, ligated with the number one catgut and removed, great care being taken that the contents are not allowed to infect the field of operation. The stump of the appendix is next grasped by the operator with a smooth tissue forcep and inverted while the assistant pulls up on the purse string and ties, completing the inversion. This step of the operation is completed by tying the free ends of the purse string to the free ends of the mesentery ligature. If there is no contortion from adhesions it is rarely necessary to do over-lapping stitching. The bowel is now dropped back into the abdomen, covered over with omentum and the abdomen closed. The ab-

dominal wall is closed by stitching layer to layer and if there is a heavy layer of fat, tension sutures are applied. Dry dressings are now applied and strapped down firmly with adhesive.

If an abscess is suspected the incision is made directly over the tumor regardless of tissues and location. Towels are clamped to the edges of peritoneum to protect the walls of incision. The abdomen is now well walled off with abdominal pads and the abscess broken into, removing the pus by suction. At this point the operator must use the most careful judgment and not attempt to do more than the pathological condition will permit. If the appendix can be shelled out and ligated it is best to do so even if you are unable to invert the stump. This can be done more frequently by an experienced operator than the beginner. If the appendix cannot be reached without considerable trauma and danger of rupturing the adhesions forming the walls of the abscess it is far safer to insert your drains and close the wound, thus leaving the appendix to slough off or do the removing at a subsequent operation. The abdominal layers are now closed as described above.

In the after treatment, normal salt or glucose solution, drop method, is given until after the patient has fully recovered from the shock. Liquids are allowed as soon as the patient is able to retain them. Morphine is used if it is necessary to allay the pain and there is no contra-indication. Additional heart stimulants are given if necessary. In the clean cases the dressings are not disturbed until the eighth or tenth day, when the skin stitches are removed, unless there is evidence of infection.

In drainage cases dressing wet with boric acid solution and alcohol are applied while the drainage is free. Usually all drains are removed in twenty-four to forty-eight hours and the wound is allowed to clean up and close up as it will.

We have used ether in the abdomen in a number of pus cases, but so far have been unable to see any beneficial results.

In the following series of eighty-four cases, most of which have been operated on in the Ravenswood Hospital, we find the following analysis: Of the simple appendectomies, thirty-six in number, we have thirty-six cured, one infection, one appendix adherent to the gall bladder, two complicated with pregnancy (one at six



months and one at two). The average duration of hospital residence, fourteen days.

As to the residence we do not believe it is policy to urge the patients to leave the hospital before they are able to care for themselves. The

nineteen days in the hospital, with the return of hernia. We should also state that this case was injected with paraffin by an advertising doctor for the cure of this hernia, several months prior to the operation. About three weeks before the

Appendicitis From the Standpoint of the Ordinary Surgeon.		No. of Cases.	Average Hospital Residence, Days.	Cured.	Improved.	Dead.	Infections.	Fecal Fistula.	P. O. Hernia.	Appendix Adherent to Gall Bladder.	Appendix Adherent to Right Ovary.	Appendix Adherent to Right Tube.	Pregnant.
Simple appendectomy.....	36	14	36	..	..	..	..	..	..	..	..	..	..
Appendectomy with drainage.....	13	25	13	..	..	..	..	..	..	..	..	..	..
Appendectomy with salpingectomy and oophorectomy..	7	16	7	2 ad.	..	..	..	..	..	..	..	..	..
Appendectomy with removal of cysts.....	11	14	11	1 ad.	..	..	..	..	..	..	..	..	..
Appendectomy with ovariectomy.....	3	21	3	1 neu.	..	..	..	..	..	..	..	..	..
Appendectomy with cholecystectomy.....	9	18	8	1 ad.	..	1	..	..	..	..	..	..	1
Appendectomy with hernia.....	1	19	1	1 return	..	..	1	..	..	..	..	..	..
Appendectomy with curettage and dilatation.....	3	16	8	..	..	..	..	..	..	..	..	..	..
Appendectomy with general peritonitis.....	1	6	..	..	..	1	..	..	..	..	..	..	..
Totals .....	84	..	82	6	2	2	3	3	1	2	1	5	..

average hospital duration of most clean cases has been fourteen days.

I have been able to trace the origin of the one infection to the stump of the appendix.

We have thirteen cases of appendicitis with drainage with a residence in the hospital of twenty-five days; post operative hernia in three; appendix adherent to the tube, one; pregnancy, one; fecal fistula, two. Seven cases which also had a salpingectomy and oophorectomy with seven cured, sixteen days in the hospital; two of which have symptoms of adhesions; one appendix adherent to the ovary and one with a fecal fistula.

Eleven cases of appendicitis with removal of cysts of the ovary, eleven cases cured, fourteen days in the hospital, one having symptoms of adhesions.

Three cases of appendicitis with ovariectomy, three cured of the appendiceal symptoms, twenty-one days in the hospital and one having symptoms of adhesions following the operation. This patient also is suffering from neurasthenia and is now taking treatment for nervous trouble in a sanitarium. One appendix of this series was found adherent to the right ovary.

Nine cases of appendicitis also having cholecystotomy, eight of which were cured, eighteen days in the hospital, one having symptoms of adhesions, one dead and one pregnant. The cause of death in this case was attributed to shock and acute nephritis.

One case of appendectomy with hernia, one cured of the appendicitis symptoms, one infected,

operation there was a sloughing due to the paraffin which had apparently cleared up before the operation. There was still some residue of paraffin found at the time of operation.

There were three cases of appendicitis with curettage and dilation, three cases cured with sixteen days in the hospital.

Appendicitis with general peritonitis one, death six days after the operation.

Of the total number of eighty-four cases we have been able to classify eighty-two as cured, five who have post-operative symptoms, of adhesions one with the return of hernia, three with post-operative hernias; one appendix adherent to the gall bladder, two to the right ovary, one adherent to the right tube, four complicated with pregnancy, three having fecal fistuli. The three fistulae I believe can be safely attributed to the drainage being left in too long. These cases cleared up without subsequent operation.

We submit this report for what it is worth and trust if any one has criticism they will feel free to make it.

DISCUSSION.

Dr. E. H. Ochsner: In cases of large appendiceal abscesses, if the abscess is well defined and is clearly in contact with the anterior abdominal wall, it is, of course, safer to make an effort to incise the abscess directly without getting into the peritoneal cavity. However, in the great majority of cases it is much safer to make the incision a little medial of the tumor, to open into the peritoneal cavity, and then pack away the abdominal contents. I always believe that when I have gotten into the abdominal cavity and have it

packed away by one or two medium sized laparotomy pads, that the patient is practically out of danger. The mortality in patients of this kind, after the contents of the peritoneal cavity are properly packed away, is really very small.

The next question comes as to what you are going to do with the appendiceal stump in cases of this kind. If the cecum is at all friable it is very much better to simply tie the appendiceal stump after the appendix has been cut off, and drop it back into the abdominal cavity than it is to make any extended efforts to cover the stump. In the early development of this appendicitis problem a great many permanent fistulas were caused not by the appendicitis, not by the appendiceal abscesses, but by the too vigorous effort of the surgeon to prevent appendiceal fistulas.

If the appendiceal stump is sewed over, it is very important to use an absorbable stitch or ligature. I have seen a number of cases of drainage discharges that were kept up for weeks and weeks until finally a chromicized cat-gut stitch came out; then the patient got well. As to the question of drainage, that is a point that the essayist did not take up; but some 12 or 13 years ago we learned that in abdominal infections the drainage should not be through the original incision and since we learned to make stab wound external to the incision through which the appendiceal abscess was drained, post-operative hernias have been practically, if not entirely, eliminated. But if one make that stab wound and remove that drainage within 48 hours you are going to get in trouble every row and then. You should leave some kind of a drain in until the discharge has almost ceased, even if it is a minute tube.

One word on the question of when to operate in these cases. When you are sure that it is appendicitis, operate right away. If they will not hold still, the point of danger is unquestionably between the second and the eighth, ninth or tenth day. The great surgeon, Maurice Richardson, coined the expression: "Too late for early operation and too early for late operation." A very good statement. Operate before 48 hours if you possibly can and if you cannot do that and the appendix has ruptured in the meantime, operate only between the eighth and twelfth days. As a rule it is bad business to operate after the twelfth day. In milder cases, with a small amount of pus, adhesions are pretty apt to be quite strong after the twelfth day and you will stand a good chance of tearing into the intestine. In the severe cases with large appendiceal abscesses, waiting too long is dangerous for this reason, that the temperature will shoot up on the ninth to the fifteenth day and they will have severe pyrexia; and there is no need of waiting that long. There is absolutely no advantage.

Dr. D. N. Eisendrath: In regard to the local signs, I have found in quite a large experience that there are certain positions of the appendix that one must take into consideration, and certain changed positions of other abdominal organs in making diagnosis, when you come to examine patients with acute appendicitis symptoms.

In the first place, we have a certain proportion of appendixes which are attached to the cecum, which is not rotated down into the right iliac fossa, but is still attached up under the liver. Secondly, there is a certain proportion of cases, especially in women, who have a general viscero ptosis, in which the gall bladder will frequently lie down in the right iliac fossa until you think you are dealing with an appendiceal abscess, and, third, there is a class of cases, especially with children, where the appendix lies down in the pelvis; if you go to examine for general rigidity, they will fool you completely unless you make a rectal examination.

Dr. Strauss of Chicago described in the *ILLINOIS MEDICAL JOURNAL* the combination of ileus and appendicitis, a very difficult thing to recognize; at least, you will lose your cases until you have familiarized yourself with it, and that is especially apt to occur in children.

In the early stages of typhoid cases are seen by the surgeon and wrongly operated on because these cases are really typhoid appendix. Secondly, we must never forget in the differential diagnosis the different kinds of colics which can be due to ureteral causes. Again, inflammation of Meckel's diverticulum is something you must always think of. I have operated for acute appendicitis and found in one case a suppurating deep iliac gland, from secondary infection; in another case, a carcinomatous appendix, a primary carcinoma and one carcinoma of the cecum.

In regard to the treatment, I wish to emphasize what Drs. Ochsner and Buswell have said. There is only one thing I would like to recommend and that is the value of suprapubic drainage, brought out for us by Dr. Van Beuren Knott for a case where you have an abscess to deal with, where you dislike to put in a drainage tube through the right rectus incision; there you can either make a stab wound away from the line of drainage or, better still, I like to set those patients in the operative position for drainage. Whenever you have, following an operation for acute appendicitis, a temperature that you cannot account for by your condition locally, always think of the possibility of a subphrenic abscess and needle that subphrenic space if it takes 20 punctures to do it.

Another thing I want to speak of is the treatment of general peritonitis. The idea of washing out with ether has never appealed to me nor has the idea of irrigation.

In 66 cases of general peritonitis my mortality has been 10 per cent. in stead of, as it was 10 years ago, 90 per cent., and that includes cases good and bad; I mean taking everything into account. The reason for this lowering of mortality has been the getting in quickly and getting out quickly, taking out the appendix immediately and closing up this laparotomy incision, draining it, of course, down to the peritoneum, putting in suprapubic drainage, a suprapubic drain of any kind, and putting that patient up in the operative position and getting them at once to bed with the bed elevated as quickly as possible.

Dr. C. C. O'Byrne: Just a word about Dr. Eisen-



drath's cases of general peritonitis of which he said he cured 90 per cent. I would like to tell the doctor that he never saved a case of general peritonitis. If he calls a local spreading out from the appendix a general peritonitis, he is using the term "general peritonitis" very loosely. I repeat that a little fluid out beyond the abscess or beyond the appendix does not mean any peritonitis at all.

I believe the most infallible rule of surgery is to do the minimum amount of operating in the presence of pus. That is why I agree with Dr. Buswell in making his incision over the abscess. If you are careful you can go directly into it. You do not need to expose the general peritoneal cavity at all; you do not expose your patient to the danger of a spreading infection. I think it is inexcusable in a definitely localized abscess to make an incision anywhere than over the abscess.

As to what to do when you get in: If the appendix is so it can be easily taken out, take it out, but in 90 per cent. of the cases it is not where you can take it out without endangering the wall of the abscess, hence you should let it alone. If the appendix remains there and it causes trouble take it out later when it is clean and when it can be removed without danger.

As to the pus appendix, whether there is danger depends on whether or not the appendix is to the right or left of the mesentery. The late Dr. Byron Robinson called attention to that fact, as did the late Dr. Fenger. If the appendix is to the right of the mesentery, your patients will nearly all get well whether operated on or not. If they rupture, the abscess will probably take care of itself. If to the left of the mesentery or over in the pelvis, then you have another story. To wait to operate in a well defined abscess until the eighth day, I think is wrong, absolutely wrong. But a careful operator can go in and drain and get out and the patient is safe. These cases where there is an exacerbation of the fever means a spreading of the abscess; means that it is causing necrosis in the head of the colon and is not draining itself through the natural channels, but it is getting tension all the time and is spreading all the time and you should not wait beyond the eighth day; if you have a localized process to drain that abscess. I saw a series of 129 cases, taking all the cases as they came, clean and pus, one after another, without a death. The one hundred twenty-ninth case died. Over 30 per cent. of them were cases in which Dr. Eisendrath might call the condition one of general peritonitis. They were not general peritonitis; there was some local spreading beyond the appendix; some fluid with some leucocytes in it, out in the abdomen; but that does not mean peritonitis at all.

Dr. A. P. Heineck, Chicago: This paper of Dr. Buswell's confirms one thing; that is that appendicitis is what is known as a surgical disease, that delay in appendicitis is inadmissible; that delay is the cause of morbidity—the cause of fatality. When the diagnosis is established you need immediate operation.

Another thing which the paper of Dr. Buswell con-

firms is that inflammations of the appendix are not infrequently associated with pathological conditions in other organs and in these cases you cannot get complete relief from the symptoms unless you take care of the coexisting conditions, so that in many cases you may have to do an appendectomy and cholecystectomy or other operation.

Another thing which we should keep in mind is that the appendix has been found in all parts of the abdominal and pelvic cavities and the point of maximal pain corresponds with the location of the appendix, if we are dealing with an appendicitis, and in these cases if we look for pain in McBurney's region we will be disappointed. I do not know of any condition contra-indicating operation in appendicitis irrespective of the type of inflammation.

In the female, I think, in case of doubt, the median incision is a valuable incision because it gives us a good exposure of the pelvic region.

These appendiceal abscesses are evidences of delay. They are evidences of either ignorance on the part of the physician or of obstinacy on the part of the patient. If we operate early we will limit their number. I believe also when you can do otherwise it is better to do more than simply to ligate the stump. You ligate the stump because you thereby check hemorrhage and you bury the stump because the better you protect the stump the more you minimize the liability to a post-operative fecal fistula.

I have had a few cases of Meckel's diverticulum, but have always diagnosed them as appendicitis, previous to opening the abdomen, but no harm was done the patient; in fact the patient was benefited because an inflammation of the appendix calls for an ablation of the appendix. The inflammation of the diverticulum calls for the ablation of Meckel's diverticulum. We believe that if a right-sided inguinal hernia, complete or incomplete, coexists with the appendicitis, showing certain somewhat mild symptoms, we should attempt—I think it can be successfully done—to remove the appendix through the same incision that is employed for the cure of the hernia.

We have done appendectomies with nitrous oxide repeatedly at the West Side Hospital and our recoveries have been good. I have had occasion also to do appendectomies under local anesthesia, under novocaine, in old individuals, and it can be done without the patient perceiving very much pain. There is one thing that is of much importance and that is, let us not talk much about the medical treatment of appendicitis. There may be preoperative treatment and postoperative treatment, but every case of appendicitis in my opinion calls for the ablation of the appendix.

Dr. E. M. Sala, Rock Island: I want to talk on one point and that is a plan I have been adopting for the last two years in draining appendicitis and other abdominal cases; many times I leave them wide open, and do not put in more than two stitches. When I have such cases, I frequently leave the peritoneum stitched to the skin, and I think in the majority of these cases, if you keep them in bed long enough,

they will heal up without any sign of hernia. In addition to that, for the last two years, I have been packing the omentum back, and leaving it back when I sewed the wound up, and not leaving the omentum in contact with the wound or with the dressings. I would rather have the intestine against the coffer dam, and the peristaltic action of the intestine will have a tendency to draw the intestine away, and you will have less trouble with adhesions following operations. I do not think it is necessary to operate on every case that is diagnosed as appendicitis. I once had a patient who, I am sure, had appendicitis for at least 15 minutes, but I did not think it was necessary to operate on that case.

Dr. George Edwin Baxter, Chicago: This subject of appendicitis is one that always stirs up something of a hornet's nest among surgeons. Occasionally a man who does not do surgery sees a case of appendicitis and finds it necessary to make a differential diagnosis. I want to emphasize two points which I believe are exceedingly important: The first is, that appendicitis occurs early in life. We see very few cases of appendicitis in infants and children, but they do occur. Therefore it calls for extreme caution in the examination of infants, particularly, in order to make a thorough diagnosis. Dr. Eisendrath mentioned in his discussion the importance of a rectal examination, not only that, but a careful abdominal palpation at the time the individual is under your control. The second point which I do not recall anyone having mentioned, is the differentiation of appendicitis from pneumonia. We should not forget the fact that mistakes have been made; that cases have been operated on for appendicitis when they did not have it, but did have a case of acute lobar pneumonia. This is particularly true again in children. Therefore, before a complete diagnosis is made, be sure that the possibility of the infection lying above the diaphragm is excluded.

Dr. Clifford U. Collins, Peoria: One point of Dr. Buswell's paper impressed me and that was that 50 per cent. of his mortality was in persons who were operated on during peritonitis. There is just one disputed point among surgeons. We all agree that we should remove the appendix before it becomes perforated and that it should be done as soon as there is a well localized abscess. We all agree that in patients who have had one or two attacks of appendicitis, the appendix should be removed, and we all agree that our mortality under treatment is less in patients treated surgically than in patients treated medically. The disputed place is right in there between the second and the eighth day, after the appendix has become perforated. I must say that my experience leads me to agree with what Dr. E. H. Ochsner said, that there is the time that you had better let them alone. It seems to me the burden of proof is upon those who operate at that critical time, to prove that their mortality is less than where the pre-operative treatment is given, between the second and eighth day before operation on the eighth day.

One question I want to ask Dr. Buswell was that

I understood he said that for this 24 to 48 hours after the institution of drainage, he put on dry drainage or dressings and then after the drainage was free he put on wet dressings. Why did he do that? It was my plan to put on wet dressings first. It seemed to me that the wet dressings favored the free drainage that we want to get.

Dr. Buswell, closing discussion: I wish to express my appreciation to those who have taken an interest in this discussion. I am glad to see that there were a few little things in that paper that escaped. I want to compliment Dr. Collins for inquiring about the dressings. The fact of the matter is that I do not do it that way, but I had it in my paper simply for discussion and Dr. Collins was the only man who caught it. You will find if you look at my manuscript that that part was already crossed out and in the hands of the secretary. But there is one thing I do wish to emphasize, especially to the younger surgeons. The first is to be sure of your diagnosis. I think there are more mistakes made in diagnosing appendicitis than in any other disease and I do believe if we would use more caution we would save our patients some after-operative adhesions. Another point, I think there is only one way in treating your patient, and that is to be honest with him—honest with yourself in regard to the advice you give. We have seen it time and again where the surgeon has taken it upon himself to scare his patient to death, telling him he must have an immediate operation, etc., when the surgeon is dishonest.

The third point to the young operator: "Know thyself and undertake to do no more than you are able to do," I think covers the ground in your handling of pus cases. The fellow who is attempting to do too much is the one to get into trouble. If you know what you can do with the pathological conditions present, go ahead and do it. If you cannot take out the appendix, leave it alone. If you are sure you can take it out without endangering your patient's life, well and good. Take it out!

## CHRONIC APPENDICITIS FROM THE STANDPOINT OF THE INTERNIST.\*

J. C. FRIEDMAN, M. D.,  
CHICAGO.

An internist working in the wards of a general hospital must be struck by the comparatively large number of patients who, a month or two following appendectomy, come back complaining of the same pain as before the operation. A comparison of the cases shows the majority to be young women between eighteen and thirty, working hard as clerks, seamstresses, etc., with little opportunity or inclination for active physical

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



exercise, small muscled, slenderly built and evidently working to both their physical and nervous limit. The majority are unmarried. On further examination the histories of the troubles are remarkably similar. They have a pain in the right side of the abdomen at intervals for a varying length of time. While it may have been severe enough to keep them in bed for a day or two and be accompanied by some nausea, yet they rarely considered themselves dangerously ill at such times. They had chilly sensations frequently, yet no definite history of fever will be elicited. After a rest of a couple of days in bed they return to work much improved but often with slight pain in the right iliac fossa, and more often with considerable distress immediately after eating, and belching, both types of pain relieved by lying down and not affected by menstruation. In a smaller percentage of cases, the patients are in better circumstances, often married and have borne children. Constipation is the rule in both classes.

On physical examination, temperature is normal or sub-febrile, there will be considerable tenderness on deep pressure in the right iliac fossa and sometimes skin tenderness and rigidity; there may be also some epigastric tenderness. Right kidney may or may not be palpable. Inasmuch as the appendix has been removed and cannot be the cause of the trouble, the stomach contents and stool are examined, and not infrequently slight changes found in both; for instance, slightly impaired motility and either diminished or increased acidity in the former, and perhaps some increased mucus in the latter. X-ray shows marked gastropsis with or without pyloroptosis with movable cecum, while the point of deep tenderness corresponds not with the base of the appendix but with the ileo-cecal junction. In these cases the usual diseases which may be confused with appendicitis can be ruled out readily, e. g., gall bladder and genito-urinary disease, and in one after the other, we have left the syndrome of visceroptosis and constipation. This is the typical case of operative failure in chronic appendicitis, but other types are also met with of which the following is an example:

Miss V., 25 years of age, entered the hospital with the following history: Two weeks before she was taken with a sudden severe pain in the right iliac fossa, colicky in nature, not radiating, fairly constant but varying in intensity from time to time. Her skin has been tender over this area and the attack

has been accompanied by nausea and vomiting, though pain is not made worse by food. She has felt feverish at intervals during this time. Marked loss of weight, the exact amount of which she does not know. She has had frontal headaches for one week. Previous history: Had a similar attack six weeks ago, lasting three days, and another attack one year ago. Had measles, scarlet fever, diphtheria in childhood; pneumonia six years ago, and typhoid four years ago. Has been constipated for the past five or six years, ever since she began to do office work. Her menstrual periods are regular and bear no relation to her pain. Family history is negative.

On examination we find an extremely slender young woman, rather poorly nourished. The head and throat are normal, heart and lungs negative. The abdomen is narrow and flat. The distance between the lowest rib and the crest of the ilium is very small. Liver, spleen and kidneys not palpable. There is marked tenderness and resistance in the right iliac fossa, not, however, strictly localized at McBurney's point. The skin in this region and in the right lumbar region posteriorly is hyperesthetic. The cecum and ascending colon are easily palpable, of normal resistance, but somewhat tender. The reflexes are normal. The temperature during the first ten days of her stay at the hospital ranged from 98 in the morning to 99 and 99.2 in the afternoon. The stools obtained after an enema were soft, showed no increase in mucus and no blood. The white count varied between nine and eleven thousand. Differential count normal. Hemoglobin eighty-five per cent. Rectal examination was negative. A bismuth meal was given and the report showed an orthotonic stomach, the colon in the normal position, normally movable. Appendix not seen. The tenderness complained of seemed to be about the point of the ileo-cecal valve rather than at the base of the appendix. To sum the matter up, then, we have a young woman who, until a year ago, was in fairly good health, except for a severe constipation, and during the last year has had three fairly distinct attacks of pain localized in the right iliac fossa, accompanied by nausea and vomiting and she thinks some fever. A sub-febrile temperature has been found during her stay in the hospital. On examination nothing abnormal is found except some tenderness in the right iliac fossa which fluoroscopy shows to be about the point of the ileo-cecal junction.

Two facts stand out: first, the three distinct attacks of pain and fever, and, second, the constipation, and our first thought would then be either a chronic inflammatory process in the right iliac fossa, with accompanying constipation, or chronic constipation with recurring attacks of colitis. Of the former conditions, chronic simple appendicitis comes to our mind first, as there is no good reason for thinking of a tubercular process here, and inflammatory processes arising from the genitalia are not borne out by rectal

examination, and by the absence of relation of pain to menstruation. The x-ray, it will be remembered, showed no adhesions around the cecum. The pain continued during the first week's stay in the hospital, and since no further progress was made between the diagnosis of chronic appendicitis and constipation, an operation was decided upon and performed. The findings were quite negative. The appendix was perfectly free, of normal size and consistency and no other abnormality discovered in this region. The microscopic examination disclosed a moderate fibrosis, certainly not enough to account for her symptoms. Since the operation the patient has felt perfectly well, perhaps from the fact that her bowels are moving regularly. The diagnosis at the present time is not chronic appendicitis but spastic constipation, with attacks either of slight cecal inflammation or colic of the large intestine.

I have been following a number of cases of so-called chronic appendicitis during the last two years and have collected fourteen similar cases of patients who have come under observation before or after appendectomies, in the former group where the operation disclosed insufficient pathology for the symptoms, in the latter group where the symptoms persisted after the operation. Two questions are raised by these facts. First, how common is chronic appendicitis and how can one diagnose it? and second, where it is falsely diagnosed, what are the symptoms due to? It is a very old question and has been discussed during the past fifteen years by clinicians all over the world. From a pathological standpoint the best answer has been given by Aschoff, who believes that there is no such thing as a gradually progressing chronic process in the appendix but only exacerbations of an incompletely healed acute process. Clinically, this may be expressed in the following terms: Unless one can get a history of one or more definite fairly typical acute attacks with free intervals, the diagnosis of chronic appendicitis will probably be wrong. Furthermore, the finding on operation of evidences of old appendicitis is extremely unsatisfactory evidence that such inflammation had anything to do with the present disturbance. To quote Aschoff again, such evidences of old inflammatory processes are found post mortem in 75 per cent, of all adult subjects, while Codman of Boston, in 100 cases of abdominal section for *other reasons*, found evidences of previous appendiceal

inflammation in 71. Therefore, if we open the abdomen of any adult patient, the chances are about three out of four that we can find enough pathology in the appendix region to claim that he was suffering from chronic appendicitis. To demonstrate this point, I present the following case:

Miss T., 20 years of age. Complained for last two months of pain in the right lower quadrant. Rather sudden onset, but now continuous, not severe enough to keep her awake at night. No relation to food taking or menstruation. Accompanied by nausea and vomiting and she thinks by chills and fever. Extremely constipated. She admitted having been under a terrific mental strain since the onset of the European war. The points of importance in the examination are the tenderness over the whole right side of abdomen most marked in right lower quadrant, with some rigidity. Pharyngeal reflex absent. Temperature normal. X-ray reveals point of greatest tenderness over the ileo-cecal valve. The diagnosis of neurasthenia was made, which was *not* concurred in by the surgeon who operated and found an appendix free from adhesions but with a stricture in the middle and a dilated distal half, *but no evidences of recent acute inflammatory process*.

It is this last point which made me adhere to the original diagnosis of neurasthenia even after the finding of a pathological appendix, as I believe (with Aschoff) that no chronic processes except, perhaps, broad strong bands of peri-appendicular adhesions can cause symptoms, all other true appendicitis being acute exacerbations. The other piece of evidence generally offered, viz., that the patient has been free of symptoms since the operation, must be cautiously accepted. For instance, Kuttner, in an article written thirteen years ago on this question, mentions a blacksmith thirty years of age operated on five years previously for so-called appendicitis in which the appendix appeared normal and was *not removed*! Since that time, not a symptom has recurred. It is especially in neurasthenic subjects with marked suggestibility that this type of cure occurs. However, cure does not occur nearly as often as the average physician thinks. For instance, Melchior and Loser report permanent cure in 95 per cent. of cases of real chronic appendicitis, while in cases without typical attacks only 60 per cent were cured. The diagnosis then is important. What are the main points? The first is the history, especially of typical acute attacks with free intervals. I have already spoken of this point. Constipation from appendicitis is the exception



and not the rule, as is generally believed. For instance, Codman found constipation in 21 of 61 cases. On examination, deep tenderness and even rigidity on palpation is utterly unreliable. Keith some fifteen years ago found by dissection of fifty subjects that McBurney's point, i. e., a point on the spino-umbilical line one and one-half to two inches from the anterior superior spine lay directly in front of the ileo-cecal valve and about one inch *above* the base of the appendix. Our radiographer, Dr. Turley, has paid particular attention to this point and comes to the same conclusion, viz., that the base of the appendix in the majority of cases does not lie directly beneath McBurney's point, but one inch or more below.

Another fact better known than the former is the extreme frequency in which tenderness on fairly deep pressure is elicited in the normal individual. Treves tested twenty-seven healthy medical students and found tenderness here in twenty-four of them. He believes it is due, first, to the ileo-cecal junction sensitiveness, and, second, to the fact that the eleventh dorsal nerve enters the rectus sheath at this point. Tenderness then at McBurney's point as an aid to the diagnosis of chronic appendicitis is a sign of doubtful value as compared with its importance in acute appendicitis. Other signs are equally misleading; for instance, inflating the colon with air, when supposedly in an inflamed appendix the tenderness over McBurney's point will be increased. This is probably true in some cases, but it is also true that in some of the conditions most difficult to distinguish from chronic appendicitis, viz., chronic constipation, colitis, etc., the same increase in the sensitiveness occurs.

A much more helpful method than palpation is fluoroscopic examination of the bismuth filled colon. Various types of radiographic evidence have been suggested to aid us in diagnosis. Cole of New York believes that pylorospasm may be the result of chronic appendicitis and may account for the dyspeptic symptoms that so often accompany that disease. Professor Carlson, in a recent discussion of the subject of pylorospasm, said that experimentally the relation between the pylorus and the lower intestinal tract was not nearly so simple as clinicians assumed and that he had never been able to produce such spasms. Personally, I have never seen a pylorospasm which I could fairly attribute to a diseased ap-

pendix, and I doubt if it is of frequent occurrence. Plates of the bismuth filled appendix have also not been of much diagnostic help to us. The demonstration of an abnormally movable cecum, i. e., Wilm's cecum mobile, is surely only a part of the visceroptotic habitus probably a result of hypertonicity of the transverse and descending colon and the resulting constipation, as suggested by Keith. The two findings which in my experience have been of positive value are, first, identification of the tender point as really lying above the base of the appendix, and, second, demonstration of a cecum fixed by adhesions. To sum up, then, we are safe in diagnosing a chronically inflamed appendix as the cause of the symptoms if we can get a history of typical attacks with free intervals, but if we take the other group of cases with long continued pain in visceroptotic neurasthenic individuals with constipation, we shall have no results from appendectomy in about half the cases. The diagnosis of this second group is of considerable importance. First of all, we must rule out the usual diseases which must be differentiated from subacute and chronic appendicitis, as stone in the ureter, disease of the appendages in women, and mucous colitis, etc.

If, however, we have ruled these out, what conditions are left to differentiate from? In the fourteen cases above mentioned, one or more of the following findings were present: Chronic constipation, with or without mucous colitis; neurasthenia and visceroptosis, either alone or in combination. To demonstrate their presence is one thing, however; to determine that they are giving rise to the symptoms complained of is more difficult. To save time, I shall simply state my own experience in this connection.

Visceroptosis causes among others two groups of symptoms. First, a feeling of distress, sometimes of actual dull pain in the epigastrium immediately after taking food of any kind. The pain does not radiate and is often relieved by lying down. Second, a more or less constant pain in the right iliac fossa and at times in the lumbar region posteriorly, worse on exertion and also relieved by lying down. Fluoroscopic examination in such cases reveals a visceroptosis with atony of the stomach and often a six-hour residue. Relief of the pain by pressure upwards on the lower half of the abdomen, and demonstration of a fairly movable cecum would justify us in concluding that the visceroptosis was causing at

least some of the symptoms. These facts are, of course, well known. What is not so generally realized, perhaps, is that there is a type of chronic constipation found often in this class of individuals which still further increases the resemblance to appendicitis, viz., spastic constipation. This type of colonic slowing is probably the result of spasm induced reflexly by the presence of some irritant in the colon of a patient with an abnormally excitable nervous system. The nervous element is shown by the neurotic temperament of these patients and by the frequent history of worry or overwork immediately preceding an attack. As a result of these spasms which occur locally in the transverse and descending colon, the cecum becomes overfilled, atonic and tender, and such an attack as in the case cited above may simulate appendicitis closely. Thus in thirteen cases mentioned in one article on this subject, eleven had had appendectomies done. The third cause of pain in the right iliac fossa is of purely nervous origin. Its combination with the two other factors is clear. Visceroptosis is apt to give rise to uncomfortable sensations, especially in individuals with over sensitive nervous systems, and as explained above, spastic constipation is practically only found in such patients, and where such uncomfortable sensations are felt, the widespread knowledge of appendicitis is apt to speedily cause their interpretation as due to that dread disease.

The treatment of these cases of pseudo appendicitis, as they have been called, is, of course, non-surgical and often very gratifying. It is impossible to go into it here, as it involves three distinct problems; the cause of visceroptosis, of spastic constipation, and of neurasthenia. Suffice it to say that the main factor in visceroptosis is a weakening of the abdominal muscles, and exercise and, if necessary, a properly made abdominal belt are the main factors therapeutically. Second, the spastic constipation, if treated as the ordinary atonic constipation, i. e., by coarse and irritating foods, will surely become worse. In general, a very finely divided and thoroughly cooked and softened diet is essential here, often with the addition of atropin and bromides to relieve the accompanying spasm, and third, the neurasthenia must not be overlooked. If, then, this class of cases is kept in mind, much fruitless operating for chronic appendicitis—cecum mobile—Lane's Kink and cecal stasis will surely

be avoided, because these more recently described affections are in very great part variations of Glenard's Disease with cecal symptoms.

#### DISCUSSION.

Dr. Daniel Eisendrath, Chicago: This paper of Dr. Friedman's emphasizes the necessity of team work. Those who have done surgery of the stomach in the last five years know that the internist must play just as important a part in the diagnosis, and especially in the post-operative treatment of our stomach cases, as the surgeon himself plays.

Before we make a diagnosis of chronic appendicitis we should exhaust every possibility of diagnosis. The surgeon cannot make all of these tests. He must call to his aid the medical men who can fluoroscope these things and who can analyze the stomach, and who can see whether pyloric spasms cause some of the patient's symptoms, whether visceroptosis is a condition; and those patients must be told before operation by the surgeon: "Now your appendectomy alone will not cure." That is where the surgeon makes his mistake at the present time. He promises them too much. They need post-operative treatment.

What we ought to do is to make the incision large enough to explore all the portions of the abdomen that may come into play. It is my rule and it has become a rule simply because I have received several black eyes for having my cases turned over to others afterwards and having them say: "You had this condition at the time you were operated upon. Isn't it too bad the doctor did not see it?" That makes a very good impression on the patient's mind and they generally relate it to their friends. You want to look, above all things, in young girls, at the condition of the tubes and ovaries. It only takes 5 or 10 minutes longer and that does not make much difference in the course of an operation, if you are a rapid operator.

Another thing which we are apt to overlook is the condition of the kidneys. I see a great many cases which have been operated on for appendicitis, because the man felt so sure of his diagnosis that he did not think it necessary to make an x-ray to find out whether the patient did not have both appendicitis and a ureteral or renal calculus, a stricture of the ureter in addition to his appendicitis and an examination by the x-ray would have helped to disclose that condition.

Dr. J. L. Wiggins of East St. Louis: I wish to simply call the attention of the essayist and Dr. Eisendrath to one or two features which I believe have been overlooked to a greater extent than any other; at least that have come under my observation. One is undiscovered umbilical hernia; the next is tubercular spondylitis. I may have been unfortunate or perhaps fortunate in a number of cases of undiscovered umbilical hernia, where it required a very close examination to discover any pathology, in finding a little tongue of omentum incarcerated, or the edema of a pouching sac not larger than the end of your little finger, and all the symptoms of which Dr. Friedman has spoken, of an indefinite character, relieved by the inversion



of that little pouch, with an ordinary adhesive bandage over it. Then in tubercular spondylitis, case after case that invites operative interference is relieved by an examination of the spine.

Dr. M. H. Mack, Chicago: These things come before the internist quite frequently.

I want to speak of the neurasthenic symptoms of these individuals. I have had occasion to watch a number of these cases and I find that under proper handling of these neurasthenic patients, if you are looking out for the autointoxication that is present in so many of them you will be surprised at the results you can obtain. I find frequently that there is a colitis along the transverse or descending colon in many of these cases. By proper handling without operation, and by proper dietetic measures, some of the neurasthenic symptoms which are bothering them clear up very promptly.

Dr. C. C. O'Byrne, Chicago: I want to call attention to the fact that you cannot always tell by the macroscopic appearance of the appendix whether or not it is the cause of the symptoms. There was a case which I operated on quite recently in which there was a definite history of acute appendicitis 10 days previously and with an acute exacerbation within the last 24 hours. I opened the abdomen and found the appendix completely wrapped up in omentum, with recent friable adhesions. I removed the appendix and macroscopically it showed no changes to the naked eye. There was no stricture. It was a short appendix of good lumen. The blocking of it was due to a catarrhal swelling of the mucosa. Microscopically it showed a little round cell infiltration and a little thickening, but this was only moderate.

Dr. Friedman, in closing discussion: Of course I had not attempted to give the differential diagnoses of chronic appendicitis. I simply wanted to point out one group of cases which is a very frequent source of trouble.

There was one point made about umbilical hernias. Of course they need to be differentiated. I think probably umbilical hernias are more frequent than is suspected, but not all of them cause symptoms. If we get a pain which we may consider due to an umbilical hernia probably the best means of differentiating it is the tenderness of the hernia itself. If we find a hernia there, but not tender, the chances are it is not causing the symptoms, but if it is tender, then, of course, it is justifiable to operate.

There was a point in Dr. O'Byrne's discussion which is a very large question, and that is to say as to the value of a microscopic examination as to deciding whether or not the appendix was the cause of the symptoms. It may have been an infection outside of the appendix, that is, a local peritonitis due to some other cause. We are not so sure about the etiology of this local peritonitis. You can get inflammation around the gall bladder that is not due to the gall bladder itself, but which is due to other causes.

Now supposing upon microscopical examination of that appendix they found microscopic changes; that by no means proves that the appendix was the cause of

the trouble because microscopic changes are very slight things to decide a point of that sort on and where the appendix is normal grossly a change microscopically does not prove that the appendix was the cause of the trouble any more than in an acute case of tonsillitis, if you took out the tonsil and then found a round cell infiltration, would you say that patient had had tonsillitis? We are apt to overestimate the value of microscopical examination in chronic appendicitis.

## SURGERY FROM THE PATIENT'S VIEW-POINT.\*

CLIFFORD U. COLLINS, M. D.,  
PEORIA, ILL.

It is well for a surgeon to pause occasionally and consider his work and the way he does it from some other viewpoint than his own. The conscientious surgeon, knowing that the safety of human lives intrusted to his care depends on his knowledge and skill, feels his responsibility deeply, and naturally studies the technical difficulties involved in his work.

For a long time the principal thought of the surgeon was to get the patient through an operation safely as far as his life was concerned, but now that the technique of most operations is fairly well established, and the mortality has been lowered within a reasonable distance of that ideal condition in which there are no deaths, the surgeon has not been satisfied with getting the patient through the operation safely, but has turned his attention to those factors that will add to the patient's comfort and give him complete relief from the symptoms caused by his ailment. And that brought the surgeon to study his work from his patient's point of view.

The patient about to undergo an operation has three thoughts in his mind. He may not be conscious of all three at the same time, nor will they always appear in the same sequence.

First, he wants to get through the operation and convalescence safely.

Second, he wants to have as little pain and discomfort as possible, before, during and after the operation.

Third, he wants to be completely relieved of the symptoms caused by his disease.

In regard to the first desire, to be brought through the operation and convalescence safely, it does little good for the surgeon and patient to confer together. The patient usually knows nothing

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society, at Champaign, May 17, 1916.

ing of the technical difficulties involved in surgical work and practically nothing of the factors affecting his safety during the operation and convalescence. He must choose his surgeon and trust him for those things. Therefore, these questions will not be discussed in this paper. Instead of conferring with his patient the surgeon will do more good by conferring with his colleagues and getting the benefit of their knowledge and experience on factors that endanger human lives.

In regard to the last two questions a little collaboration between the surgeon and patient will certainly do no harm, and will undoubtedly result in good. The surgeon can well afford to study the surgical treatment from the patient's point of view. The study will well repay him in the knowledge and experience gained.

We will not discuss the importance of gentleness in making examinations, nor the value of a reassuring, kindly manner in conducting the consultation. Every patient is more or less timid at the first meeting with the surgeon, and the successful surgeon soon learns how to conduct a consultation and examination in a manner that will inspire trust and confidence on the part of the patient. So we will assume that the examinations have been concluded, the diagnosis has been made, and the time set for the operation is near at hand.

The thought in the minds of most of the surgeons of today is to have the patient in as normal a condition as possible on the morning of the operation. For this reason we do not deplete him with strong cathartics or saline laxatives for two or three days before the operation in a vain endeavor to empty his intestinal tract, as we used to do. Neither do we starve him for two or three days prior to the operation as we once did. We know, now, that it is impossible to get the intestinal tract entirely empty by either physic or starvation, and we are not sure that it would be desirable if we could. We also have learned that the filling up of the intestines with gas after the operation is not due alone, if at all, to fermenting materials contained in the intestines, but to rough handling of the abdominal organs, undue traction on the mesentery, and other factors which will be discussed later.

In our own work, the patient's meals are not restricted, with the exception that the supper the night before the operation is light, and he is not given strong cathartics, with its accompanying

gripping and depletion. The lower bowel is unloaded with soapsuds enemas, aided occasionally, with a mild dose of cascara the evening of the second day before the operation. The endeavor is to have the patient in as normal, comfortable, strong condition as is possible under the circumstances, and he appreciates that he has not been made weak by hunger or physic.

Although the surgeon is held responsible for all that is done to the patient, unfortunately it is physically impossible for him to do all the things that are necessary but must trust some one else with some of them. The nurse or orderly who shaves and prepares the skin of the field of operation can avoid much discomfort to the patient by the skillful use of a sharp razor for the shaving, and soap and water only for the cleansing. Alcohol, or solutions containing alcohol on a freshly shaved skin, will usually produce a smarting and burning that will bring forth a protest. After the skin is cleansed with soap and water the evening before the operation, a sterile dressing, held in position with adhesive plaster, will protect the area while the skin is becoming dry during the night. The antiseptic solution can be applied the next morning on the dry healed skin with a better effect, and with a great deal less discomfort to the patient. In an emergency operation the skin can be cleansed with benzine and the antiseptic solution applied after the patient is anesthetized with very little loss of time.

Every patient approaches an operation with more or less misgiving and trepidation which usually increases as the hour of operation approaches. This fear and apprehension not only makes the patient uncomfortable but is depressing in its effect. It can be abolished by a hypodermic of scopolamine and morphin. The dose should be varied to conform to the condition of the patient, but usually 1/6 gr. of morphin and 1/100 gr. of scopolamine is sufficient to produce the desired effect. It should be given about one hour before the operation in order to have the maximum effect at the time it is most needed. The quiet manner in which the patient enters into the stage of anesthesia, when the preliminary hypodermic has been administered, is proof of the calm mental condition that it induces. We have given it as a preliminary to more than four thousand patients and are more convinced than ever that it is a kindly, beneficent thing to do.

I have no desire to enter into a controversy



about the best anesthetic to use, but I think most of us, if not all, will admit that nitrous oxide gas combined with oxygen is the most pleasant anesthetic for the patient to take. It has no unpleasant odor, and it induces anesthesia quickly, so by using gas and oxygen to put the patient to sleep, he is spared the experience and knowledge of the disagreeable pungent odor of ether and slips rapidly and comfortably into unconsciousness. After the patient is unconscious ether may be substituted, if the surgeon desires.

When the patient is anesthetized one might think that he had no further interest in the matter and no viewpoint from which to consider it, but such is not the case. He is going to wake up after the operation is completed and he earnestly desires as little discomfort as possible at that time and the amount of his postoperative discomfort is doing to depend largely upon the care and gentleness with which the surgeon and assistants do their work.

A soft pad on the operating table with a firm small pillow correctly placed under the lumbar spine will do much toward preventing the distressing backache so frequently complained of by patients when these precautions are not taken. The arms should be placed in a comfortable position, and the anesthetist should see that they are kept there. The elbows should not be allowed to come in actual contact with the hard table in order to avoid postoperative numbness of the third and fourth fingers. The eyes should be protected from the anesthetic with cotton or guttapercha if ether is used, and this will also prevent the anesthetist from testing the patient's reflexes by palpating the conjunctiva with his finger tips, a faulty practice that was in vogue a few years ago.

If it should be necessary to use tongue forceps, which is very seldom if the anesthetist is experienced, they should be used in a manner that will not bruise or lacerate the tongue. I have seen patients made very uncomfortable by a lacerated, sore, inflamed tongue. A great deal of the postoperative discomfort may be prevented by a skillful anesthetist that gives the patient just enough anesthetic, and no more, to produce the required amount of anesthesia, and who is gentle and skillful in his manipulations of the jaws and tongue.

Crile has emphasized the fact that, although the patient is unconscious from the anesthetic, his brain receives the effect of rough handling and painful manipulation of the tissues just the same.

Even if the effect on the brain is prevented for a time by blocking the nerves with a local anesthetic, the soreness will remain after the effect of the anesthetic wears off.

The surgeon who has a due regard for the sensitive areas of the operative field, and treats them accordingly, in a careful, gentle manner, will cause his patients the least possible amount of postoperative discomfort. The surgeon should by all means be a gentle man in more ways than one.

In the surgery of the abdomen there are two particularly sensitive layers in the abdominal wall, the skin and the peritoneum, and traumatism should be especially avoided in these two layers as far as possible. A sharp knife to incise the skin will do less damage than a dull one. The assistant in catching the bleeding vessels with hemostats should avoid also catching the edge of the skin in the back part of the forceps.

The parietal peritoneum is the most tender, sensitive structure in the abdominal wall, if not in the body. Injury to the peritoneum is responsible for the most of the soreness and discomfort after an abdominal operation. It should be handled very gently and carefully. It should not be grasped and crushed with forceps where it is possible to avoid it. The twisting and ligation of a hernial sac cause undue traumatism and postoperative discomfort. A simple suture of the opening left in the peritoneum after the sac is removed will do less damage and lessen the discomfort.

Gauze is a barbarous thing to use in the abdomen on account of the damage it does to the peritoneum. Draw a piece of gauze over your hand and see how it clings to the skin as it passes over it, and how it rasps like a file. Rubber dam placed over the intestines is smooth and does no damage to the endothelial cells covering the peritoneum. It does not have body enough to act as a coffer-dam in walling off the intestines, so pads of some smooth, soft, moistened material may be placed over the rubber-dam. Laparotomy pads of cotton flannel with a nap on both sides have answered the purpose best for us. It is smooth and soft, especially when wet, and does very little damage, if any, to the parietal peritoneum when passed in and out of the incision. Care in preventing injury to the peritoneum not only prevents immediate postoperative soreness and

discomfort, but also prevents postoperative adhesions and additional discomfort and danger.

The closure of the peritoneal layer can be facilitated, and the use of forceps on the edge avoided, by dividing the peritoneal incision into two or more sections with one or more mattress sutures which hold the edges together and evert them, thus leaving no raw surfaces on the under side. The sections thus made are easily closed with a continuous suture. For quite a while we used clips for the skin, but became satisfied that they cause considerable discomfort while in position and during their removal. Now we use a subcuticular suture of catgut, which does not have to be removed, whenever advisable, and horsehair for the skin when a non-absorbable suture is best.

A cotton flannel dressing over the closed incision is smoother, softer and more comfortable for the patient than gauze. The cheapest cotton flannel is the best for dressings and laparotomy pads.

After the patient has been returned to his room a pint of salt solution is given per rectum to relieve the intense thirst which the patient usually complains of when he regains consciousness. This should be repeated whenever necessary. In former times the patient was given no fluids by mouth for three days for fear of causing trouble in the stomach and bowels and was kept rigidly on his back, presumably for fear of a secondary hemorrhage. Now the patient is given water and fluids almost as soon as he is out from under the anesthetic. If it comes up his stomach is washed out. As Dr. J. E. Moore of Minneapolis once said: "It may not taste quite so good coming up as it did going down, but it will help relieve the dryness both times." If it stays down his system is supplied with much needed fluid. He also is allowed to turn on his side and shift his position as soon as the soreness permits. In this way much of the postoperative discomfort is avoided.

Some years ago we were taught by some surgeons that morphin was a dangerous drug to give a patient for the first few days after an operation and many patient were allowed to suffer in obedience to this teaching. We now believe that morphin, or some opium derivative, is a beneficent agent, not only relieving pain but preventing acidosis.

If there is distention from paralytic ileus, which is usually prevented now by careful hemo-

stasis and gentle handling of the viscera with avoidance of traction on the mesentery, we have ceased to try to get rid of it with vigorous catharsis and frequent enemas. We think we know now that if it was possible to remove all the gas from a paralyzed intestine it would be filled again in fifteen minutes or less. When the bowel wall regains its tone the gas will pass freely without urging. Therefore the patient is not disturbed and made uncomfortable by physic and enemas but is made comfortable by small doses of morphin and warm infusions in the rectum of salt or bicarbonate of soda, until the bowel begins to functionate normally and naturally.

Leaving the patient's second thought that he wants to be caused little pain and discomfort before and after the operation, we pass to his third desire that he be relieved from all the symptoms caused by his disease. Human nature gives a curious exhibition in relation to this thought. The patient who is not relieved from his symptoms will frequently not go back to the surgeon who operated on him. He seems to feel that he has tried that surgeon once, and was not completely cured, so it is useless to go back. Very frequently he will not even answer letters of inquiry sent to him. If he is completely cured he will answer letters of inquiry promptly and cheerfully, and tell how well he feels, and how grateful he is, and wishes to be remembered to the nurses and so on. But if he is not cured according to his satisfaction he seems to feel a grievance and ignores a letter of inquiry as to his condition.

However, the average patient likes to feel that the surgeon's interest in him has not ceased with the completion of the operation, and the surgeon who keeps in touch with his patients by letters of inquiry, will not only make them feel better by showing his interest in their welfare, but will also get a fund of valuable information that is not to be obtained by any other means. For instance, it was information obtained in this way that caused many surgeons to change their method of treating gall-bladder disease from a cholecystostomy to a cholecystectomy. The surgeon who keeps in touch with his patients after their operation will become wary of operating on young female patients for a seeming chronic appendicitis. Letters of inquiry will soon teach a surgeon his ultimate results and enable him to modify his plan of surgical treatment so that the



greatest number will be completely relieved of their symptoms.

I am well aware that I have not brought to your attention anything particularly new. I have simply gathered a few little things that tend to lessen a patient's discomfort without increasing his danger and are desirable from this point of view. There are, no doubt, many other points in technique, which will occur to you, that can be modified so as to give the patient more comfort without increasing his hazard. If I have stimulated your interest in this direction, I am well repaid for bringing to your attention surgery from the patient's viewpoint.

#### DISCUSSION.

Dr. Carl Black, Jacksonville: It is certainly a very healthy indication that the surgeons are devoting a little time and attention to surgery from the patient's viewpoint. This is really the point of view which we ought always to have taken and should always take—the patient's viewpoint—and when we do not do that we are not really doing our duty by the patient.

Operative hemorrhage is or should be practically a thing of the past. Hemorrhage should be always accidental and practically surgical technique has eliminated as a factor in shock, operative hemorrhage. This paper, I think, reduced to its fundamentals, is a discussion of shock after all and the reasons for shock. The technique of anesthesia has been so improved that there is much less shock from the anesthetic than there was a comparatively short time ago, and there is a wonderful difference in going from one clinic to another in the way the anesthetic is given.

Having practically eliminated operative hemorrhage, and having reduced the shock of an anesthesia, we have just two points left which we must consider, which this paper principally considers—fear and pain. It is the fear of the operation, the fear of the result, the fear of the anesthetic, that is one of the important elements in surgical shock, and it is the recent attention which has been called to this element of surgical shock which marks one of the great advances of operative surgery. If we could eliminate either on the part of the patient we would greatly reduce the shock of surgical operation.

It is the consideration of this question in its broadest sense, in the sense in which William B. Cannon considers it in his most excellent book on "Pain, Hunger, Fear and Rage," which gives the point of view of the patient, and which every surgeon should study carefully, as it illuminates really the whole subject of operative surgery.

If we add, then, to these four—pain, hunger, fear and rage—the other fundamental emotion of the perpetuation of the race, then we have the five fundamental emotions of man and three of these enter conspicuously into the shock of operative surgery. It will be given to very few men probably in the future

in surgery to make large reductions in operative mortality, but it is given to every surgeon who operates to make comparative reductions in mortality and also to make great reductions in the amount of surgical shock; in other words, in the amount of injury which the surgeon does to the patient, because it must be recognized that every surgical operation does a certain amount of injury to the patient, and to reduce that to the absolute minimum is the object of all studies, and we must not overlook the criticisms of the neurologist who is pointing to this and that patient who has been operated on and attributing all the symptoms which they have to the operation. Of course, he is largely wrong in attributing it all to the operation, but we are largely wrong in overlooking the fact that the operation itself does injure the patient and we as surgeons must look this thing squarely in the face and study every detail of technique which is going to minimize that injury which we do to the patient; in other words, which is going to minimize the shock to the patient.

In conclusion, then, if a patient can be so operated on that he has no operative hemorrhage; if he has no damage done to his brain cells from the anesthetic; if fear is eliminated, and the operation can be so conducted that not only psychic pain is relieved by a general anesthetic but his nerve pain is relieved by local anesthesia or blocking the nerve tracts—if those things can be accomplished by surgery, then as a matter of fact we will have accomplished a shockless operation.

Dr. O. Theo. Roberg, Chicago: I take it that Dr. Collins' method is to relieve the patient as much as possible of that extreme anxiety with which the patient approaches operation, and the dread as to the outcome. It is rather a significant fact that the title of the paper is "Surgery from the Patient's Viewpoint." It is not "medicine" from the patient's viewpoint, and there are certain parts of Dr. Friedman's paper and the discussion by Dr. Eisendrath which are very significant in this connection. Dr. Friedman declares that the surgeon is becoming more and more a mere mechanic, and rightly so; and Dr. Eisendrath practically states the same thing when he states that we will refer patients to a diagnostician. As long as the surgeon is willing to accept the position of being a mechanic and referring his patient to a diagnostician, an article like this on surgery from the patient's viewpoint, I think is extremely timely.

Another reason why the patient has a great deal of fear and anxiety is because frequently the operator does not see the patient before the operation, and I think our first duty to the patient to be operated upon is, at least, to visit the patient in the room so that he may see the operator is in the hospital.

Another thing is this having a lot of standing orders and not giving specific orders in each case. For example, I know of a doctor's wife who was sent to a hospital with an acute gall-bladder infection at noon one day. She was sent to a cold room and prepared and was given a big dose of castor oil, and during the night she was given a glass of water every hour and

her bowels moved about every hour or two. She spent absolutely a sleepless night. If the operator had fully realized that the patient had spent a sleepless night, owing to the action of the cathartic and the taking of that water, I am pretty sure that his orders would have been modified in subsequent cases. In this instance, this patient, when she came to be anesthetized in the room, had coryza and a cough. The surgeon suggested giving chloroform instead of ether. After the surgeon went out of the room, the interne quite confidentially informed the patient that chloroform was a terribly dangerous anesthetic, and although he was opposed to it, yet he must give it because he had been told to and he went on to tell the patient that only three days before a patient in that very room died from a chloroform anesthetic. On this occasion, the patient turned to him and said, "Do you think that is just the thing to tell a patient to whom you are going to give chloroform?"

If the operator saw a little more of his patients before operation, these things would not happen, and in fact in most cases of that character where they do happen, the surgeon never knows anything about it. Then the same is true to a considerable extent in regard to the after-treatment. With the surgeon, usually, the operation is the only thing. Many are too busy to take care of them afterward and others, as a matter of habit, come to leave most of these details to their assistants. Only a short time ago I knew of a case of a young man who was operated on for acute appendicitis. There was no microscopic pus there; no drain was put in. The operator did not see that patient for a week and finally the assistant called his attention to the fact that the patient was not quite well, and within 24 hours that patient was dead, and he had about 2 quarts of pus in the abdomen. So, while trying to give the personal viewpoint of the patient consideration, let the surgeon give a little more personal attention to the patient.

In regard to the anesthetic, Dr. Collins suggests using a pad of cotton or a film of gutta-percha over the eyes. My observation is that cases in which a cotton pad has been used, and the gutta-percha as well, had more ether eyes than the other cases. I think that can be easily explained for the reason that that cotton, already moist, comes in contact with the cone on which the ether is being poured, and by capillary attraction, the ether is drawn into that cotton all the time and finally, during a long operation, the patient has that ether over the eyes. I have a standing order that absolutely nothing be placed on the patient's face but the mask and it is up to the one administering the anesthetic to see that the ether is not poured over the face. The matter of following up the patient after leaving the hospital I think is of great importance.

Dr. George S. Edmonson, Clinton: I do not think I can emphasize the patient's desire to be relieved of the symptoms any better than by reporting a case which has been mine for some months past in which there were many distinct attacks of renal colic. The

patient being one on whom I could not operate, he was referred and a diagnosis of chronic appendicitis and chronic infection of the gall-bladder was made and the operation was done for the relief of the two. The patient recovered perfectly satisfactorily, but is still having attacks of renal colic—two months after the operation—so I want to emphasize the fact that Dr. Collins brought out, that it is just as necessary to know whether and why to operate as it is to know how to do it.

Dr. William H. Maley, Galesburg: If there is anything distressing to a patient it is a prolonged anesthetic, and it is certainly a pitiful thing to see a patient completely under an anesthetic and the doctor wasting minutes and sometimes half an hour, talking or explaining something or going through a still more prolonged and unnecessary scrubbing. Preparing these patients properly and carefully, looking after the pads on the table, the comfort of the patient afterwards, giving morphin to relieve the patient's pain, I think is certainly not only human but beneficial. There is nothing that will help a surgeon like having to go on the table himself. It is a pity, a great pity, that all who practice surgery do not have to get on the table early themselves. Then I am sure that there would be a great deal of sympathy and more care for the patients.

Dr. Collins, in closing: I am very grateful to the gentlemen for their liberal discussion. I fully agree with what Dr. Maley has said, and it happens that 11 years ago I was operated on myself. I have intended to write this paper during all of the intervening time, but I wanted to wait until this time so I could get a viewpoint that was not too close to the time of operation. I take a great deal of interest in the suggestion offered by Dr. Roberg on the point of the surgeon seeing the patient before the operation. I think I have been remiss on that point. I thank him very much for the suggestion, and I will follow it out. Also in regard to the cotton and gutta-percha over the eyes, I have placed a protection over the eyes with the idea of keeping the vapor of the ether out of the eyes, but if it is an objection, will see to it that it is discontinued; we will consider the suggestion of Dr. Roberg very carefully. My purpose was attained in securing this discussion, because if we could stimulate interest, and look at these things from the viewpoint of the patient, I am sure we will do many things to make the patient more comfortable.

#### ATYPICAL FORM OF SPLENIC DISEASE.\*

ALLEN B. KANAVEL, M. D.,  
CHICAGO.

In the few minutes assigned to me in this symposium it is possible to consider only a few salient points. The fundamental character of

\*Read in the symposium upon splenic disease before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 18, 1916.



this latter-day study of splenic disease should be urged. It should be remembered that pernicious anemia, splenic anemia, hemolytic jaundice, etc., are clinical terms denoting ill-defined clinical entities, and it is probable that as our knowledge grows an entirely new classification of these diseases will result based upon a pathological or physiological foundation. Therefore, any final decision at this time as to whether they should be subjected to splenectomy might lead us to an ill-judged abandonment of a procedure that has the greatest of possibilities for the cure of disease hitherto incurable and, on the other hand, by misguided enthusiasm lead us to subject many patients to unnecessary and dangerous surgical procedures. Pernicious anemia and splenic anemia particularly will probably be subdivided into many diseases or many forms of the same disease. Therefore, every patient presenting himself, and especially every patient operated upon, should have a most exhaustive clinical, bacteriological, chemical, and pathological study before and after operation with the idea of determining the exact nature of the physiological and pathological processes underlying the disease. No objection can be raised to splenectomy in selected groups of these disputed cases if the subject is approached in this manner. The field should be especially fruitful for the physiological chemist. As examples of the course investigation may take, one might mention the study of expressed serum and cellular proteids from removed spleens, both normal and abnormal, the increased fragility of the red blood cells shown in hemolytic jaundice and the comparison of the spleen to the ductless glands introduced by Eppinger in the term "hypersplenism."

That the spleen is concerned in the destruction of red blood cells cannot be disputed, but whether in any of these diseases it acts in this capacity as the primary factor, or only after the blood cells have been marked for destruction from some other source, has not been determined. That the ordinary chronic hypertrophy is a strong factor in an accompanying anemia is without doubt true, but the relation of this blood destruction to the various types is still unknown. No conclusive studies have been made of the relation of the blood picture to the acute enlargements.

Is it possible that we may come to speak of primary and secondary hypertrophy of the spleen as indicating on the one hand an increase of the size due to a demand on the part of the organism

for more function which may in time overrun itself, and on the other an increase due to toxicity producing pathological or physiological enlargement and carrying disease sequelæ in its train? In the first instance we could imagine such a splenic enlargement that might be beneficial at one stage and detrimental at another just as with enlargements of the thyroid, and in the second we could imagine a spleen causing great destruction of blood and hence a menace to health, the removal of which would be beneficial but would demand at the same time the elimination of the etiological factor. Approached from the blood side certain pernicious anemias may prove to be so-called hemolytic jaundice with increased fragility of red blood cells, others may be found to be secondary to chronic recurring sepsis of known or unknown origin, demanding that every avenue of infection should be removed. Two cases of apparent pernicious anemia coming to my knowledge have remained well a number of years after the removal of an appendix following an acute attack during the course of the disease.

The brilliant results following splenectomy in the so-called hemolytic jaundice has already been drawn attention to in an article by Dr. Elliott and myself. Here again we are dealing with a clinical picture and not a clearly defined pathological entity. We have both congenital and acquired forms.

Clinically they are characterized by a chronic, mild icterus, with or without indefinite weakness and malaise, upon which are engrafted from time to time the so-called "crisis," consisting of marked increase in size and tenderness of the spleen, with malaise, headache, and slight fever, accompanied by an intense hemolysis, sometimes with hemoglobinemia at the height of a crisis, as in our case, with anemia, urobilinuria, bile pigment in the blood, but not in the urine, and a deepening of the acholuric jaundice—this differing from the ordinary jaundice in that it is non-toxic, with no pruritis, no petechia, no bradycardia, and is of a light lemon color; the liver is slightly enlarged and tender and may present the liver crises produced by the passage of the thickened bile or pigment stones through the ducts, giving the typical signs of gall-stone disease. Unless this complication occurs the stools are of normal color.

Splenectomy in these cases is followed by most brilliant results—our own case after one and a half years presents remarkable permanent im-

provement and the same may be said of 46 patients whose records we found in the literature.

The results in splenic anemia, particularly in the early stages, are also excellent and it is probable that the so-called von Jaksch's and Gaucher's type also respond if operated upon early.

The splenic anemias following syphilis, malaria, or chronic sepsis, also respond to splenectomy. Here it would seem that we are dealing with an anemia sequential to an hypertrophy of the spleen due to a toxemia—an hypertrophy probably beneficial in limiting or destroying the primary disease, but carrying in its train the unfortunate sequelæ of red cell destruction. Here again we should ask ourselves if the primary disease has been eradicated and wise judgment may be demanded as to the proper time and indications for splenectomy. If the splenic enlargement is only a sequela of an infection already passed, its removal will be sufficient to relieve the anemia.

When we come to the question of enlargements of the spleen accompanying liver hypertrophy the question is more complicated and in all probability the results more indefinite. If we can prove that the splenic enlargement is antecedent it should be an important factor; where it follows liver enlargement we would expect less result. Here, however, owing to the difficulty of determining small enlargements of the spleen, our previous clinical knowledge may be entirely changed as a result of observation upon the operating table, and we may find even in these cases that the spleen has been primarily enlarged but unrecognized.

To recapitulate: It is probable that an entirely new classification of splenic disease will result from our present study and, therefore, to hold pernicious anemia, splenic anemia, hemolytic jaundice, etc., as permanent clinical entities and to say definitely that splenectomy benefits this and does not benefit that is unwise and will lead to improper conclusions, unjustified operations by the unthinking, and may prevent operation where it is indicated. Each case should be the subject of both medical and chemical study before and after operation.

Splenic enlargement with anemia should not be operated upon simply because of the enlargement, but the primary disease should be sought for, septic foci eradicated and as a concomitant procedure the spleen removed when it is reasonable

to suppose that it will continue to destroy red blood cells in excess of the normal number.

Under our present clinical classification splenic anemia, anemia from splenomegaly accompanying chronic septic foci, syphilis, malaria, hemolytic jaundice, will secure the greatest benefit through splenectomy. Splenomegaly with liver enlargement will secure benefit varying with the type and stage of disease and our knowledge is not now sufficient to draw general conclusions.

The so-called pernicious anemias have not been studied long enough to give definite data. It is certain, however, that some types are not benefited permanently, many are benefited primarily, and it is not absolutely known if any are cured. The question will probably not be definitely settled until we have increased our knowledge enough to reclassify the disease; but meanwhile enough benefit can be secured by repeated transfusions and splenectomy to justify splenectomy in carefully studied and selected cases.

---

### SPLENECTOMY IN PERNICIOUS ANEMIA.\*

P. M. PARRISH, M. D.,  
DECATUR, ILL.

That the diagnosis of pernicious anemia is often overlooked in the early stages of the disease, and the medical treatment has always been of doubtful permanent benefit, and as splenectomy has gained in favor during the last few years, is the apology I offer for this paper and the reporting of two cases that have come under my observation. It has long been known that animals and human beings can live and in apparent good health after the spleen has been removed.

The functions or physiology of the spleen is still fragmentary and confused; probably no other organ in the body has so successfully evaded scientists and research workers.

We know it is supplied with fibers from the splanchnic nerve; by stimulating these nerve fibers it contracts, by cutting them we have splenic enlargement. It is also abundantly supplied with unstriated muscular fibers, which rhythmically contract and expand at intervals of about one minute. This is supposed to assist

---

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society, at Champaign, May 18, 1916.



in maintaining the circulation through the organ independently of the arterial circulation.

The spleen also gradually enlarges during digestion for about five hours after a meal, then gradually recedes to its former size.

The spleen is the organ in the body in which the blood stream comes directly in contact with the pulp and it is not supposed the blood stream flows through the spleen in a haphazard manner, but the spleen has the power of attracting to it certain elements circulating in the blood, as shown in splenic enlargement in typhoid and malaria. That the spleen does not have an important internal secretion is shown by the fact that men and animals live in good health after its removal.

The spleen contains a large per cent. of iron in the form of an organic compound. After splenectomy, there is a large increase in the daily loss of iron from the body. These facts suggest that the spleen is concerned in a special degree in the metabolism of iron, possibly in the formation of red corpuscles, in the manufacture of hemoglobin or in the conservation of the iron lost in the blood destruction.

Primary pernicious anemia is a systemic disease with a blood picture showing a high color index, decrease in number of red cells and the constant presence of nucleated red cells, poikilocytes, megalocytes and megaloblasts, with lemon colored skin, digestive disturbances, progressive weakness and spinal cord symptoms. The consensus of opinion at this time is that it is a toxine of one form or another, as the tissues at autopsy have the appearance of having been acted upon by a powerful poison, especially the blood, spinal cord, heart, liver and kidneys.

The first splenectomy for pernicious anemia was at Eppinger's request in March, 1913. Different operations report different mortality rates ranging from eight to twenty-five per cent. Carsten has collected seven hundred and forty cases of splenectomy for various lesions, with a mortality of eighteen and one-half per cent. due to the operation.

Dr. Roblee, who reported in the *Journal A. M. A.*, March 6, 1915, two cases of splenectomy for pernicious anemia, writes me as follows:

One case died six months after operation, with a return of all the symptoms of pernicious anemia. The other did very well. I am today in receipt of a letter from his son stating that his father committed suicide

by hanging himself in February of this year. The boy states that he was separated from his wife, had no money or friends and committed suicide in a fit of despondency. He ends his letter this way: I believe the operation you performed was a decided success and had he lived a different life he would have been a well man today. This suicide occurred one year and nine months after the operation had been performed. I feel that in this case the operation was well worth while.

Dr. Lee, who reported five cases in the *Journal A. M. A.*, July, 1915, writes as follows: "Of the cases there reported, two have since died, the others are comparatively well."

In a series of only twelve in which the operation was performed by Dr. Vincent, Harvard University, the immediate mortality was zero. All the cases have improved at least for the time being. We have not been able to demonstrate that the disease has been cured in any instance. Coming to my own cases:

Case 1. A. U., male, aged 37 years, American. Occupation, railroad conductor, decorator and painter. Married but not living with his wife. No children. Father died at age of 78, cause unknown. Mother living, good health. Two brothers living, good health. One brother drowned at age 32. Two sisters living, good health. One sister died at age 28, had been sick three years; said to be anemic. Patient had always lived in Illinois except during 1900 and 1901, during which time he was in Texas. In 1905 he had an infection of the eyes lasting three or four months, followed by a sore mouth described by him as canker sores that were aggravated by eating acids or tart foods.

Never used alcohol to excess, no history of syphilis, Wassermann positive. In July, 1913, he became unable to work and after taking medical treatment for about one week, became blind, but recovered his sight within a short time. In January, 1914, he was unable to sit up but improved and returned to his work during March, April and May. In June he began to lose ground regardless of treatment and taking medicine all the time. Three reputable physicians had him under treatment and had made a diagnosis of pernicious anemia. I first saw him about July 14, 1915. He had the characteristic lemon color complexion, was very weak, but in fairly good flesh. Was vomiting practically all food; spleen was very much enlarged and could be plainly felt below the costal margin. He was operated on July 24, 1915; entire spleen removed. It was about five times the size of a normal spleen, very friable, but normal in appearance. Recovery uneventful.

After recovery from the operation he did not complain of pain in the limbs or joints, but there was some tenderness and pain in his back over scapula, especially the left side.

Blood findings in this case are as follows: July 20, 1915, red cells, one million; hemoglobin, 40 per cent.;

many poikilocytes, macrocytes and microcytes present; in fact, a typical picture of pernicious anemia.

July 29, erythrocytes, one million, four hundred thousand; hemoglobin, 45 per cent.; poikilocytes. Leucocytes, eleven thousand four hundred; several normoblasts present.

August 1, erythrocytes, one million, five hundred ninety-two thousand; hemoglobin, 50 per cent. Poikilocytes and normoblasts present.

August 30, red cells, two million, four hundred fifty-six thousand; hemoglobin, 60 per cent.; leucocytes, ten thousand two hundred; macrocytes and microcytes, a few poikilocytes and normoblasts present.

October 23, red cells, three million, four hundred eleven thousand; hemoglobin, 82 per cent; leucocytes, eight thousand four hundred; macrocytes and microcytes present and a few poikilocytes.

January 1 and 21, 1916, erythrocytes, four million, four hundred ninety-six thousand; hemoglobin, 80 per cent.

March 28, 1916, erythrocytes, four million, four hundred twenty-four thousand; hemoglobin, 85 per cent.; leucocytes, nine thousand six hundred; still some macrocytes and microcytes present, but in lesser numbers.

This man at this time looks and feels very well, is up and around and doing some light work, but is not able to resume his former occupation, and says he has not the strength to do a day's work.

Case 2. September 18, 1915, Dr. Hildreth asked me to see Mrs. G. A., aged 45 years; German housewife; living in America twenty-five years; married, two children, son and daughter, living and healthy. Was unable to get her family history. She had the characteristic lemon color, very anemic and exhausted; vomiting nearly all food and complaining of an intense throbbing in the head.

September 25 transfusion was done, with her son as the donor, with very little improvement.

October 1, second transfusion was done with marked improvement, which continued until October 7, when the symptoms of severe anemia returned. Following the second transfusion she developed a low grade of fever which continued till her death.

October 10 I assisted Dr. Hildreth do a complete splenectomy. The spleen was about three times normal size, but normal in color and consistency. She recovered nicely from the operation and the improvement was marked. The color and edema of the face had cleared up; she was taking food and all throbbing in the head had disappeared. She was feeling well and sitting up in bed, although the low grade of fever had continued since the second transfusion.

October 22, twelve days after the operation, she had had breakfast, was telling the sister how good she felt, when she gave a gasp and fell over dead.

Dr. Hildreth performed a partial autopsy three hours after death. He states there were no signs of peritonitis; pedicle of the spleen was normal, but says the remarkable thing was two supernumerary spleens in the pedicle about the size of an English walnut. The heart, lungs and brain were not examined, but in

my opinion she died of embolus, probably of one of the coronary arteries or one of the arteries of the brain. There was no history of syphilis although no Wassermann was made.

The blood findings in this case are as follows: September 24, 1915, red cells, five hundred ninety thousand; hemoglobin, 20 per cent.; white cells, thirty-eight thousand; red cells taking stain well; megaloblasts found, occurring in various sizes and shapes; many macrocytes, microcytes and poikilocytes. Blood picture characteristic of pernicious anemia.

October 14, four days following operation, erythrocytes, one million, six hundred thousand; white, thirteen thousand two hundred; hemoglobin, 30 per cent.

October 18, red cells, two million, two hundred forty thousand; hemoglobin, 38 per cent.

We now come to the most important question. Is splenectomy justifiable in pernicious anemia; is it worth while? I do not believe any surgeon will say he has a perfectly healthy patient or one that has a normal blood picture. The early results are striking and gratifying; but will our patients relapse and die in a few months or year as they do under medical treatment? The operation, while serious, is not difficult and is borne very well by patients that are very low, as was true in my cases. Hemorrhage is about the only thing we need fear.

When we consider the desperate condition of the patients, many of them bed ridden, awaiting in utter exhaustion to die, are we not justified, and do we not owe it to them to give them this relief when they ask for it, after explaining to them and their friends the hazard of the operation and its high mortality, even if we cannot say to them that the cure is permanent, until we have something better to offer?

In preparation of this paper I am indebted to Dr. Hildreth for allowing me to present his case, to Dr. Smith, Dr. Jack and Bill for making blood counts; also to Dr. Lee and Dr. Roblee for writing me.

References: Osler's System of Medicine.

#### DISCUSSION.

Dr. A. S. Wall, Champaign: I am very much interested in this paper because it is something new and deals with a surgical procedure that is vital to life itself. The physiology of the spleen has been a stumbling block to the physiologists. They will tell you one thing today and tomorrow they will tell you that is wrong. As to the physiology I may say that I believe Osler's theory that the spleen in fetal life manufactures red blood corpuscles and that after the cessation of fetal life it only manufactures red blood corpuscles under extraordinary conditions, such as



hemorrhage—that theory has stood for some time and I believe that is correct.

The other functions of the spleen as stated by the paper seem to be the grave of the red blood corpuscles after they have been sensitized by other organs. They are not only destroyed in the spleen but their food value is conserved and passed on to the liver. It also has the power of separating the bacteria from the blood and passing them on also to the liver for their destruction. The paper concerns splenomegaly which I understand is an enlargement of the spleen, and the diagnostician who can make out an enlargement of the spleen before it has come down below the ribs is better than most of us and in fact men of large clinical experience claim that it cannot be done.

There are four causes for enlargement of the spleen—new growths, infectious diseases, diseases connected directly with the blood, and cirrhosis of the liver. Banti's disease begins at the thirteenth year and is very chronic and lasts a long time. There is also a disease of the orient, an infectious disease where we also have an enlargement of the spleen, which is not very well understood. The anemias represent a type of fetal blood or the reversion to fetal blood or to that of the lower animals. Pernicious anemia, however, is very easy to make out on account of the erythrocytes, and their count, the hemoglobin usually staying pretty high, the erythrocytes almost never going below a million. In pernicious anemia the spleen is almost always enlarged. Of 19 cases that were operated upon, 18 have been from 360 grammes to 910; one was below normal, but there were 18 out of 19 very much enlarged in pernicious anemia. Cabot says that it is his opinion that while all of the cases improve in pernicious anemia after splenectomy, it is too soon to judge of the end results. I think we have nothing to lose, because, as you all know, all cases of pernicious anemia are fatal otherwise in a limited time.

Dr. C. B. King, Chicago: I would like to report one case which I have in the hospital at the present time. Thirteen years ago this man suffered a severe typhoid. At the very beginning of his typhoid I found the spleen reaching down to the umbilicus and the history he gave me at that time was that four years previously he had suffered from malaria. The blood findings at that time I remember were practically normal; the differential count was normal. He has gone along the past thirteen years and I have seen him rather frequently. His general appearance has been that of anemia, however, there has been no blood count made until quite recently. He came to me along in the latter part of March with a history of having suffered from exceeding thirst and passing considerable urine the previous four weeks, with a loss of weight. Urinalysis showed at that time about 4 per cent. of sugar. He was put upon a diabetic diet. The sugar condition improved somewhat. About two weeks ago he began to complain of very marked weakness with some edema of the feet and ankles. The weakness continued and he was put to bed, a

general edematous condition coming on. He was sent into the hospital and we made a differential count. The red count at that time, only last week, was about 4,380,000 and the white count was 3,800; differential normal. His blood pressure, systolic, was 138, diastolic, about 110. His sugar condition within the last week or so has increased in spite of diet. The liver, during all this period of time has been very large, extending down to the umbilicus. At the present time there is some enlargement of the spleen. The liver is enlarged a finger's breadth below the costal arch. Splenectomy was talked to this man but he refuses and owing to the diabetic condition he hesitated about doing anything in a surgical way.

I simply report this as to the long time that he has carried this enlarged spleen and been able to work.

Dr. Parrish, closing discussion: I have nothing to add. I want to thank Dr. Percy for his splendid discussion and the other gentlemen also. I only want to say that we have a lot to learn, and I think this thing will be discussed, I hope it will be discussed, and good work done on it until we get some basis on which to stand in doing this work.

### SPLENECTOMY.\*

MAURICE L. GOODKIND, M. D.,  
CHICAGO.

Splenectomy has had a well established position for a number of years, in the treatment of splenomegalia of the Banti type, but it is only within the past few years that this treatment has been extended to other conditions associated with splenic enlargement and it is now being utilized in hemolytic icterus; Gaucher and Minoski form of splenomegaly; hypertrophic cirrhosis with massive splenic enlargement, and anemia splenica infantum, but it is especially in the domain of the so-called idiopathic or primary pernicious anemia that it has found many advocates in recent years. My own experience regarding splenectomy has been so meager that I have been compelled to rely on a study of the work of others in arriving at any conclusion. Looking over the literature of the subject, the first complete data regarding the removal of the spleen in pernicious anemia are presented by Eppinger and Ranci of Vienna several years ago. The assumption being that in this disease the spleen contains a toxin either developed in situ or as a result of infection from the oral cavity, pyorrhea, disease of teeth or tonsils or from the gastro-intestinal canal (appendix and gall bladder), and that this toxin has a selective action on the erythrocytes, as evidenced by

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society, at Champaign, May 18, 1916.

an increased urobilin output, in both stool and urine, siderosis of liver and spleen, sub-icteric hue; biliary pigmentation of the serum. Also experimental investigation of the erythrocytes of the spleen has demonstrated that, in this condition, in that locality, they possess a lessened resistance and fragility as compared with the circulating blood.

In the statistical report which herewith is appended, the European mortality varies from 20 to 50 per cent.; in our country, the operation has not been attended with so large a mortality. For instance, Percy and Ochsner operated on 23 cases of pernicious anemia within the last 26 months with the loss of but a single case and with a relapse in but three cases. The first case of their series which was operated on 26 months ago, they report as having apparently recovered. These excellent results may be ascribed to the preliminary preparations which their patients received. Six hundred to 700 centimeters of whole blood is transfused as often as the patient's condition may require to place him in a suitable state for operation. Some receive as many as four transfusions. This measure is also applied to every patient immediately after splenectomy and before the patient is returned from the operating room.

In addition to these precautionary measures, an attempt is made to remove all other sources of infection (tonsils, bad teeth, diseased gall bladder, appendix, etc.).

The results are certainly most brilliant, and while we recognize the fact that pernicious anemia is a disease which possesses a peculiar tendency to remissions and that too short a time has elapsed to warrant any dogmatic statements, nevertheless the results thus far achieved are far beyond anything hitherto accomplished by medicinal agents. The only contra-indications to operation which they recognize are signs and symptoms indicative of involvement of the central nervous system.

Certain gratifying results which I personally have secured through the use of the intensive application of the x-ray in a few cases of Banti's disease, made me feel that this may also be a useful adjuvant in pernicious anemia, as a preliminary procedure before operation, especially where the spleen is much increased in size, as its influence upon the vascular and lymphatic supply of the spleen diminishes the likelihood of hemorrhage and infection.

SPLENECTOMY IN BANTI'S DISEASE.

1. Rodman, J. Stewart, and de Forest Willard: "Splenic anemia (Banti) with special reference to the etiology and surgical treatment." *Annals of Surgery*, vol. 58, No. 5, p. 601-615, 1913.

They believe that in Banti's disease the original toxins are formed in the gastro-intestinal tract. These lead to disease of the spleen, and here, secondarily, new toxins are formed, which cause the other symptoms. In the two first stages, when the cirrhosis of the liver has not yet appeared, they believe splenectomy is distinctly preferable to medical therapy. In the third stage splenectomy is of less value and the operative mortality is very much greater (56 per cent.).

Technically, for approach, they recommend a large flap incision, that begins just beneath the ziphoid process, runs directly downward, 1 cm. to left of the median line, to just above the umbilicus, then runs to the left and upward again to the costal arch. The rectus muscle is divided transversely, the oblique muscles, partly bluntly, are divided in the direction of their fibers.

2. Körte: Bier, Braun und Kümmel, "Chirurgische Operationslehre," vol. II. Operative risks, 27.4 per cent. Carstens collected 739 splectomies in the literature; the mortality was 27.4 per cent.

3. Heineke: Splenectomy in Banti's disease. *Handbuch der practischen Chirurgie*, 1913, vol. III.

Splenectomy is valuable in all three stages.

	His Own
	30 Cases—
	Mortality
1st. Splenomegalie + anemia .....	25%
2nd. Splenomegalie + anemia + liver hypertrophy .....	40%
3rd. Splenomegalie + cirrhosis + leucopenia ...	60%
Banti's statistics from the literature:	Mortality
First stage .....	0%
Second stage .....	16%
Third stage .....	30%

4. Groves, E. Hey: Splenectomy in Banti's disease. *Bristol Med. Chir. Jour.*, vol. 31, No. 122, pp. 331-333, 1913.

That even in advanced cases splenectomy is of value is shown in this case where the spleen reached to the umbilicus and there was cirrhosis of the liver, ascites, and edema of the feet. After extirpation of the spleen the omentum was fixed in the lower angle of the abdominal wound. General gradual disappearance of the symptoms. Patient is now able to work again.

5. Mayer, W. J.: "Ein Fall von Splenectomie während der Schwangerschaft." Published in Russian. Abstracted in the *Zentralb. die gesamte Chir. und irre Grenzgebiete*, Bd. V., Heft 9, s. 521, 1914.

Pregnancy is no contra-indication when splenectomy is necessary.

6. Hill: *St. Barth. Hosp. Rep.*, 1909, xlv, 43.

Hill classes splenic anemia in two types—Hemolytic and Cachectic.



7. Klemperer, G.: In what internal diseases does splenectomy come into consideration? *Therapie der Gegenwart*-jg. 55 H. 1, s. 1-7, 1914.

The relatively moderately severe operation comes into question in

- Cachectic anemias with splenic tumor (enlarged spleen)
- Tuberculosis

Tumors

Banti's disease

Hemolytic icterus

1. The resistance of red blood cells is increased after splenectomy.
2. The hemolysis and hemoglobinemia, caused by intravenous injection of water, is not influenced by splenectomy.
3. The action of the hemolytic agent is influenced by the spleen. According to these experiments the spleen is able to markedly decrease the resistance of the red blood cells to these agents.
4. Splenic extracts do indeed have a hemolytic action; the hemolytic substance is probably a lipid.

Symptoms	Hemolytic	Cachectic
Pigmentation	Common	Never
Hematemesis	Common	Rare
Other hemorrhages	Rare	Common
Relative leucocytosis	Only with marked leucopenia	With slight leucopenia
Myelocytes	May occur	Never
Normoblasts	May be numerous	Few are not rare
Megaloblasts	May be numerous	Never
Color index	Often above 1	Rarely 0.9 (never over 1)
Falling count with rising index	Almost always (blood changes resemble those of Pernicious An.)	Never
Splenectomy	Does not cure, but may relieve symptoms and delay the commoner causes of death	Cures!

- Not indicated in
- Passive congestion of the spleen

Amyloid spleen

Leukemia

Granuloma

Lymphosarcoma

Malaria

Lues

5. Liver, lymph glands and bone-marrow possess slight hemolytic properties.
- Banti studied 50 cases carefully—32 females, 18 males.
- Banti's own collected cases:

	No. of Cases	Recovered
First period .....	4	3
Second period .....	22	13
Third period .....	4	1

Cachectic anemias without enlarged spleen  
Pernicious anemia—improvement in blood picture and general condition, but no cure—10 cases. Important to operate early.

- He urges operation in the
- First period where the mortality is 25 per cent, or in the
- Second period where the mortality is 40 per cent., and in the
- Third period where the mortality is 60 per cent.

8. Erdman, J. F., and John J. Moorhead: Splenectomy for splenomegaly (Gaucher type). *American Jour. of Medical Sciences*, vol. 147, No. 2, p. 213-224.  
In 16 cases, confirmed by operation and autopsy (10 operated; 2 died), splenectomy is the method of choice. Best prospects for surgical intervention are cases with a large spleen, normal blood picture, 50 per cent. hemoglobin and over. Moderately enlarged liver is no contra-indication. Pararectal incision. Surprising results after operation. Entirely cured.

10. Hutchinson, J.: Excision of the spleen for splenic anemia. *Proceedings of the Royal Society of Medicine*, vol. 6, No. 8, Surg. Section, p. 236, 1913.  
Seven year old boy, who after 8 months' observation, with a spleen reaching to his navel, in emaciated, anemic condition, 2,100,000 reds; 3,800 whites, 30 per cent. hemoglobin; operation splenectomy. Liver slightly cirrhotic. Cure! Two months post-operative, 5,000,000 reds; 9,400 white; 65 per cent Hg.

9. Banti, G.: Hemolytic, anemopoetic splenomegaly. *Sperimentale* Jg. 67, No. 4, p. 323-378, 1913.  
A new disease which differs from the classical Banti's disease in that hemopoetic function of the bone-marrow is insufficient. In the usual Banti's disease one finds in the blood polychromatophilia, granulobasophile erythrocytes and very often normoblasts and neutrophile myelocytes (hemopoetic type), leucocyte count nearly normal. In the new form (anemopoetic type) these mentioned blood cells are absent altogether and there is marked leukopenia; 2½ to 3½ million red cells, 2,000-4,000 whites.  
Experimental work on dogs and rabbits showed:

A case of a 5 year old girl, well now after 18 years.  
11. Kidd, Frank. Case of Banti's disease cured by splenectomy. *Proceedings of the Royal Society of Med.* vol. 8, No. 8, Surg. Sect., p. 225, 1913.  
Seventeen year old girl, ascites, hematemesis, general weakness. Blood picture, 4,900 reds, 3,000 whites, 75 per cent. Hg. Spleen ++. Splenectomy. Nine months later, 5,900,000 reds, 5,000 whites, 90 per cent. Hg.  
As the operation is not difficult and is followed by great benefit the author considers splenectomy is in-

licated in all cases of enlarged spleen with cirrhosis of the liver.

12. Mayo, Wm. J.: Surgery of the spleen. Surg. Gyn. and Obstetrics 16, p. 233-239, 1913.

Splenectomy valuable in Banti's disease, as he found in 18 cases. In 27 splenectomies for various conditions, 2 deaths.

13. Eppinger, Hess, u. Ranzi: Über Splenectomie bei Bluterkrankungen. Mitteilungen a. d. Grenzgebiet Bd. 27, H. 4, s. 796-806, 1914. Abstracted in Zeitschr. f. d. gesamt. Chir. Bd. 5, No. 9, s. 521, 1914. Ranzi read paper at American Surg. Cong., N. Y., 1914.

Splenectomy in 9 cases (7 are quite well) for Banti's disease. In 20 splenectomies, 4 deaths:

1 from shock	Splenectomy indicated in
1 from duodenal ulcer	Banti's disease
2 from pneumonia	Pernicious anemia
	Hemolytic icterus

14. Wilson, L. B.: Pathology of spleens removed for certain abnormal conditions of the blood. Tr. Am. Surg. Ass'n, 1915, June. (I. A. S., Sept., 1915, p. 271.)

15. Upcott, H. A.: Splenic Jaundice; a contribution to the surgery of the spleen. British J. Surg., 1915, ii, 673. (I. A. S., Sept., 1915, p. 269.)

16. Mayo, Wm. J.: Surgical considerations of splenectomy. Tr. Am. Surg. Ass'n, 1915, June. (I. A. S., Aug., 1915, p. 151.)

17. Giffin, H. Z.: Clinical notes on splenectomy. As above. q. v. (I. A. S., Aug., 1915, p. 152.)

18. Elliot, C. A., and Kanavel, A. B.: Splenectomy for Hemolytic Icterus; a discussion of the familiar and acquired types with a report of splenectomized cases. Surg., Gyn. and Obstet., 1915, xxi, 21. (I. A. S., Aug., 1915, p. 152.)

19. John Bapst Blake: Banti's symptom complex with relation to splenectomy. Annals of Surgery, Sept., 1915, vol. lxii, p. 315. (I. A. S., Feb., 1916, p. 171.)

20. Krumbhaar, E. H.: A classification and analysis of clinical types of splenomegaly accompanied by anemia. Am. J. M. Sc., 1915, cl., 227.

21. Gerster, J. C. A.: Ligation of the splenic and gastro-epiploica sinistra arteries in the surgery of the spleen. J. Am. M. Ass'n, 1915, lxxv, 527. (I. A. S., Dec., 1915, p. 611.)

Additional recent literature, 1914-1915:

22. Roblee, W. W.: Splenectomy for primary pernicious anemia. Surg., Gyn., and Obstetrics, 1914, xix, 675. (I. A. S., March, 1915, p. 285.)

Mühsam: (What can be accomplished by splenectomy in the different forms of anemia?) "Was erreichen wir der Milzexstirpation bei den verschiedenen Formen der Anämie?" Deutsche Gesellsch. f. Chir., 1914. (I. A. S., March, 1915, p. 286.) I have this.

24. Graf, P.: (Surgical treatment of hemolytic icterus.) "Zur chirurgischen therapie des hämolytischen ikterus." Deutsche Ztschr. f. Chir., 1914, cxxx, 462. (I. A. S., April, 1915, p. 378.)

25. Kreuter: "Experimentelle Untersuchungen über den einfluss Milzexstirpation auf das periphere

blutbild." Arch. f. klin. Chir., 1914, cvi, 191. (I. A. S., May, 1915, p. 496.) Verhand. der Deutsche Gesell. f. Chir., 1914, I, 225, and II, 796. I have this!

26. Nobel, E., and Steinbach, R.: "Zur Klinik der Splenomegalie in Kindersalter." Ztschr. f. Kinderh., 1914, xii, 76. (I. A. S., June, 1915, p. 611.)

27. Roblee, W. W.: Splenectomy in Primary Pernicious Anemia. J. Am. Ass., 1915, lxiv, 796. (I. A. S., July, 1915, p. 34.)

28. Percy and Smithies: Read a paper on "Blood Transfusion and Splenectomy in Pernicious Anemia" before the Society for Internal Medicine, April, 1916.

## SPLENECTOMY.\*

NELSON MORTIMER PERCY, M. D.,  
CHICAGO.

Both of the papers have been very interesting and I agree with everything that has been said. As Dr. Kanavel has told you, anemias are not well classified. This is probably due to the fact that so little is known concerning the cause of the various anemias.

Whatever the cause of pernicious anemia may be, it seems quite probable that it is not due to disease of the blood forming organs. While very little is known concerning the physiology of the spleen, there is definite clinical evidence that the increased blood destruction occurring in pernicious anemia is in some way associated with an abnormal functioning of the spleen. In cases where blood destruction has been studied before and after splenectomy, a marked reduction in blood destruction has been found in practically every case following splenectomy. While the etiology of pernicious anemia is unknown, it may be suggestive that in our series of cases operated on, twenty-three in number, every spleen removed showed evidence of chronic or healed inflammation such as adhesions or increased connective tissues or calcareous deposits. Furthermore, it may be significant that in all of these cases there was found a long standing chronic focus of infection in some other portion of the body, and in several cases one or more foci of infection. In a large percentage of our cases, infection was found in the gall bladder. In nineteen of the twenty-three cases, a chronic cholecystitis with or without stones was present; fifteen of these nineteen also showed evidence of a previous infection in the appendix; two of the cases had a definite chronic infection in the appendix without in-

\*Presented in symposium before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 18, 1916.



vovement of the gall bladder; six of the cases had definite evidences of a long standing focus of infection about the teeth; two cases had a long standing infection of the tonsils besides the teeth; in one case the only focus of infection found was about the teeth.

In January, 1914, we began treating pernicious anemia by what we call massive step-ladder transfusions of whole blood, combined with splenectomy and the removal of any chronic focus of infection present.

In all cases of pernicious anemia in which a splenectomy is contemplated, the patient is given from one to five transfusions of whole blood, at intervals of a week or ten days, as a preliminary measure. The patient begins to improve immediately after the first transfusion and continues to improve with each subsequent transfusion, until they are good surgical risks and splenectomy can be done without greater shock than would be produced in any other patient by an operation of the same magnitude.

From our experience, it would seem that most any case of pernicious anemia can be greatly improved by a series of blood transfusions. We found, however, that the improvement was only temporary as invariably in the late cases the blood count would drop within two weeks, unless transfusion was repeated.

We have done splenectomy in twenty-three cases of pernicious anemia with one fatality. This patient died on the twelfth day from uremia. Splenectomy, cholecystectomy in two cases, splenectomy and appendectomy in three cases, splenectomy alone in one case. In six of the cases teeth were extracted later and in two cases the tonsils also removed. Transfusion was done routinely on the table immediately at the close of each operation. You see in all of the cases we have done more than merely remove the spleen. All the chronic foci of infection that could be found have been disposed of, and besides they have received one or more large blood transfusions which undoubtedly have greatly facilitated their recovery.

The average number of transfusions given each patient was 3.5. The average amount of blood given each time was 640 c.c., making a total of 2,340 c.c. per patient. The average length of time from first transfusion until splenectomy was twenty days. Average time in hospital after operation was twenty-seven days. The transfusions

given consisted of plain whole blood and were not diluted with any chemical substances. We believe that the administration of plain whole blood is better than defibrinated blood or blood which has been diluted with sodium citrate solution. On admission to the hospital the average blood count of these twenty-three cases was R. B. C. 1,300,000; W. B. C. 4,037; hemoglobin 36 per cent.; the average color index being 1.4; the coagulation time was seven minutes; the average number of blast cells present was 4 per cent. of 100 white cell count. On discharge the average red count was 3,700,000, the average white count, 10,300; the average hemoglobin 70 per cent.; the average color index .9. The average coagulation time 5 minutes, but the blast cells were usually still present.

There is quite a striking immediate effect of splenectomy and that is a polymorphonuclear leucocytosis takes place almost instantly. For instance, where we take out the spleen and while tying its vessels and closing the wound, we have a blood count made we will find the white count has gone up from 4,000 to twelve, thirteen or fifteen thousand in that five minutes.

In every case in which the count has been taken within a few minutes after splenectomy this immediate polymorphonuclear leucocytosis has been found. Where the polymorphonuclears were perhaps only 40 per cent. before the operation, in the next two days they will come up as high as 90 and often as high as 97 per cent. Just what causes this immediate leucocytosis I am not prepared to state.

I have some charts which will give you a better idea of the effect of splenectomy than I can tell you. I would like to say a few words about blood transfusions in pernicious anemia. In advanced pernicious anemia, that is the late cases, blood transfusions are of no permanent value at all. In the early cases a good blood transfusion will often give a remission which will sometimes last for months, but in the later cases which have been sick for two or three years, and which have had several remissions, and then for the last six or twelve months have gone continually down and long become bed-ridden, with a count perhaps under 1,000,000 and with general edema; in that type of cases, blood transfusion is only good for about ten days; but these cases will begin to eat immediately after a blood transfusion and will pick up and then by repeated transfusions can be

improved in a few weeks until they are in a safe condition for operation.

The operative mortality in cases of pernicious anemia has been too high in the past. These cases have been operated on when they were not in a condition to stand a severe surgical procedure.

We had one operative mortality out of 23 cases. This patient did very well for ten days and suddenly developed an acute suppression of urine and died of uremia. This low mortality is simply due to the fact that we prepare these patients; they receive their blood transfusions until they are good risks, but it is not so much the blood count at the time of operation as the general condition of the patient. That is, we can have a patient who has been bed-ridden for six months to a year and a half and, say, in two weeks we can have the blood count up to about 3,000,000 by three transfusions, but this patient may not be a safe surgical risk, while another case with a blood count of 2,000,000 may be a better surgical risk. In all cases we get the blood up and keep it up until the general condition of the patient will warrant the surgical procedure.

I would like to say a word about Dr. Kanavel's paper, especially about Banti's Disease; it is not known what causes Banti's disease, but it seems to be associated in some way with cirrhosis of the liver. Probably what causes one causes the other. In all cases of Banti's disease cirrhosis of the liver will develop if the disease persists long enough, and the important thing about it is this, that early removal of the spleen will prevent cirrhosis of the liver taking place, and these cases do very well, so we believe that in a case of Banti's disease, as soon as a diagnosis can be made, the spleen should be taken out.

(The speaker further illustrated his talk with lantern slides showing the effects of splenectomy and also the effect of blood transfusion in pernicious anemia.)

We are not claiming any cures in these cases at all, but 17 out of these 23 cases have been long-standing, bed-ridden, you might say down-and-out cases and were cases in which I think if you saw them and went over their history you would be convinced that these cases had had practically all the remissions they were going to have. The other five cases have not been such late cases.

We believe that in pernicious anemia they

should be operated on early, before too much degeneration has taken place.

Another thing, pernicious anemia presents so many different types. There is one type of anemia where the psychic disturbances, the nerve lesions and the spinal cord changes come on early and are out of proportion to the blood findings. That type of case does not do well under any form of treatment and should not be operated on. As to our results, our oldest case is apparently well at the end of 26 months. We have three cases which have relapsed. They are the types of cases I have mentioned with marked spinal cord changes and physic disturbances; especially in one of these the nerve disturbances were very marked throughout the disease. One of those cases recurred and did not do well at all. That is, after three transfusions and the operation he went along very well for about six weeks, when psychic disturbances recurred and he died a few weeks later. Another case went bad. This patient did only fairly well for about four months when the cord changes which were marked at the time of the operation became worse and the patient became practically paralyzed and death occurred seven months after the operation. Another case did about the same thing. Another case died from other causes four months after operation with a blood count of nearly 5,000,000. The other cases, the interval varying from 26 months up to the present time, are doing well.

As I say, time will only tell how many, if any, of these cases will recover, but from our experience we believe that the work is worth while and it is the surest and quickest method of obtaining remissions even in these very late, long-standing, bed-ridden cases.

---

#### THE PREPARATION AND USE OF VACCINES IN CHRONIC BACTERIAL LOCALIZATIONS.\*

ADOLPH GEHRMANN, M. D.,

CHICAGO.

The popularity of vaccine treatment has extended this therapy to almost every condition in which bacteria have been found or are suspected of being present. There are so many conditions in which bacterial localizations in or upon the tissues have extended over months of time and

---

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 18, 1916.



have resisted all of the ordinary lines of anti-septic, hygienic, climatic, electric, hydro-therapeutic and kinetic treatment, that when the addition of vaccine therapy was added to our methods it was received with the greatest hope of benefit to many of these disagreeable and persistent cases. Among this group of conditions may be chronic rheumatics, infectious endocarditis, suppurating sinuses, chronic catarrh of the nasal passages, with and without asthma, ear infections, genito-urinary and intestinal infections of a chronic character. In a consideration of vaccine therapy as applied to these chronic localizations I do not consider the stock vaccines for the reason that one may inject either one or a combination of bacteria in such a case based either on absolute empiricism or upon more or less of a microscopic or bacteriologic investigation of the case. If one vaccine is found satisfactory, well and good. If it is not another may be tried until it is finally determined that it is inefficient. Often with one or the other vaccine there is temporary benefit but often not a lasting improvement or cure.

I wish to bring to your attention some points in the preparation of vaccines made up from the material from the case itself, and also some consideration of the methods of using vaccines in these conditions. In order to prepare an auto-genous vaccine one must make a study of the material available from the case. This is the most difficult part of the procedure, because in all of the chronic localizations, outside of those connected with the circulatory systems, the growth of bacteria is on surfaces and exposed and constantly mixed. I have had occasion repeatedly to examine cases from a bacteriologic standpoint, and have seen a series of what one might consider the essential or predominating organisms follow one after another. There is undoubtedly the probability of an overgrowth of one or two varieties as time goes on in the exposed tissues. It is this part of the preparation of vaccines that I wish to discuss at length. The making up of an emulsion either straight or sensitized is a purely technical matter.

Our experience has brought us to the conclusion that it is no simple matter to make sure which are the real active organisms in a given instance. There are some cases in which this is quite certain, as in colon bacillus cystitis, middle ear suppurations and a few other infections. But in nose and throat discharges and in chronic

bronchitis and in various forms of colitis there is such a variety of organisms to be found and such frequent changes in the flora of the discharge that it is very rare to find the same organisms reappearing upon subsequent examinations. Probably of all cases the chronic bronchitis cases with asthma are the most variable. We have made extensive cultures under both aerobic and anaerobic methods with the result of finding such a large number of varieties of bacteria that it is very uncertain which are predominating at any one time. Further, at the same time, direct examination of specimens may indicate that there are still other varieties which have not grown in a satisfactory way. Our method of procedure is largely guided by the direct examination of the material. This must not be neglected, because the results of culture may be very different from what may be expected from a study of the specimen on the slide. I feel much more satisfied if I can examine a number of specimens from the case before making a culture, and in this way determine the relative number of the different kinds and classes of bacteria observed before starting the cultures. With such an examination as a basis one is able to decide how best to proceed for cultivation and to use methods that will tend to be selective for the bacteria observed. It must be remembered that bacteria are very particular as to the culture media upon which they grow, as well also as towards its precise composition.

Some of the important varieties in a case may be lost because only one or two cultures were made and these did not happen to be suitable for all of the micro-organisms that were present. It happens sometimes that in the direct examination we do not see enough bacteria to indicate the infection, yet when we make the cultures we find a good growth of one or more varieties taking place. It is also well to remember that there are probably two distinct groups of organisms in these chronic surface localizations; the group of bacteria growing in the surface tissue itself and another group growing more or less as saprophytes in the exudate on the surface. This is especially true when there is more or less stasis and the discharge collects as in sputum, vaginal or urethral pus. Mucous surface localizations are peculiar in this regard and deserve special care and extended observation to make the findings clear. In the cases of old tubercular sinuses, ischio-rectal fistulæ and sinuses from foreign bodies, as bone

fragments and tooth roots, another difficulty is presented because the cultures show only the outward aspect of a condition deep within that is hidden, or indifferent to bacteriologic procedures.

In regard to the methods used for cultivating and isolating the bacteria from the case we have given up Petriplate cultures, largely because this method is slow and the colonies are often below the surface and cannot be easily fished for subcultures. In place of the Petri method we have gone back to the older method of streaking out the material or flooding it over the surface of culture media. These cultures usually grow over night and all the colonies are on the surface. This is a great advantage because pure cultures can be quickly and certainly obtained; from these any number of additional cultures can be prepared to get a sufficient quantity of organisms for making up the emulsion. For one to be successful in this method it is necessary to be practiced and skillful in judging the amount of material and in spreading it to a proper degree so as to get a good colony growth. All of the aerobic organisms can be quickly and certainly isolated in this way. For anaerobic methods we have to use the special schemes employed for this purpose. In making up emulsions we have found it more satisfactory to use the minim as a standard of measure and to make emulsions more concentrated than is usually the case; one hundred million to each minim and in some instances two hundred million. We do this because the sub-q syringes usually used are in minims. The amount of fluid to be injected is also less, an advantage to which I will refer later. We have found the methods for counting the number of bacteria in bacterial emulsions rather uncertain, and are now more satisfied to use a cultivation method for the number of organisms found before sterilization of the emulsion. When the counting chamber or the opacity of the emulsion is used as a basis for estimating the number of organisms we find that the personal equation leads to a great variation in the results. In regard to the putting up of emulsions for use there are advantages and disadvantages in the ampule method and the bulk method. Personally, the bulk container seems more satisfactory to me because there is such a tendency for the bacterial cells to settle and stick to the bottom and sides of ampules, causing the emulsion to flake or leave a great many bacteria behind when it is withdrawn.

Some points on the use of vaccines in these chronic cases are of present interest. It is probable that the extended use of vaccines has led us to expect too much in this class of conditions. We see such excellent results in some acute infections and especially in subacute cases that we naturally hope for the same benefits in chronic conditions. I think we are about ready to accept certain limitations and not promise too much from this line of therapy. It may first be recalled that the type of immunity involved is that relating to the protective action of the leucocytes and as this immunity is very largely directed against the pus coccus group of organisms it is to be expected that resistance will be best when directed against the more pure types of pus coccus localizations. To a less degree the action is antagonistic to the colon bacillus group of organisms. Beyond these I have not been able to see much benefit from vaccine treatment in chronic localizations. Diphtheria bacilli, pneumococci, pyocyanus, leptothrix and fusiform organisms or mixed saprophytic localizations (some anaerobic) do not appear to be much influenced. At least the presence of these organisms will add uncertainty. I think, however, there is a distinct use in cases where there is a mechanical defect that is more or less accountable for the continuation of the condition, because, by a few injections, the patient can be protected against an extension when some operation is required to relieve the mechanical defect. How many bad or indifferent results we are getting from vaccines is hard to see, but there is no doubt that in some cases, especially in old patients and in others where there has been absorption of the products of the infection for years, immunity is not only not again stimulated, but the patients show signs of increased toxemia when they are injected. In the chronic rheumatic cases the primary focus must be searched for with diligence, and it is usually found in the mouth, nose, genitals, rectum, or perhaps hidden in the abdominal cavity as a chronic appendix or gall-bladder infection. Such cases are often chronic but demand local treatment in connection with vaccines prepared and isolated from the focus itself. In cases of this kind, even after years of discouraging medicinal treatment an excellent result can be achieved through vaccine injections and local cleaning of an infected area. As intimated before, when the foci are found to con-



tain staphylococci or streptococci the beneficial results are most marked. In all of these cases diet and hygiene should not be overlooked.

A few words as to the plan for the injection of the cases under discussion, I would first recall the statement that in our opinion the concentrated emulsion is best. I have reached this conclusion because it seems to me that in developing immunity the changes in the local reaction area play a very important part, and that when a dilute emulsion is given it is rapidly dispersed in the tissues and does not have much local effect. Robertson (*New York Medical Journal*, April 22), discusses the intravenous injection of bacterins and intimates that the good results of subcutaneous injections may be due to our having entered a vein in making the injection. I believe that in the circulation the wide dissemination of the bacteria fails in stimulating action such as we get when they are planted in a small area subcutaneously. On this account I think a small concentrated dose is more satisfactory. The old lesion fails to immunize because it is cut off from the general circulation by inflammatory connective tissue growth, and absorption is probably entirely wanting. I would also advise avoiding intramuscular injections as these are liable to cause a great deal of pain, which is not reaction, but which is due to a disturbance of the muscular tissue. I have seen several instances in which intramuscular injections have been made and the patients have had the most disagreeable local symptoms in the muscle for a number of days.

A study of the general histories of these chronic localizations will show that the individual recovers if they remain local, but dies if they become widespread in the circulation. Various kinds of terminal infections may end these cases as an outcome of a primary local condition. We should rather try to follow Nature by making a new mild focus in which all of the immunity-stimulating conditions are reproduced. I, therefore, recommend small concentrated doses, strictly subcutaneous, so that the chemistry of the limited local infection may be reproduced. In these cases of chronic localization care must be taken not to give too large a dose or number of bacteria, and this should not be repeated too often, at least never before all the signs of the last injection and the local disturbance have disappeared, such time usually extending to four or five day periods. The first injection should always be small

so as not to have an overwhelming effect, after which the injections should be increased gradually, just enough to get a reaction, but not more, and the injections should be continued until there is practically no reaction when further applications are of no advantage.

### RADIUM THERAPY.\*

#### REMARKS ON THE USE OF RADIUM IN DEEP-SEATED MALIGNANT DISEASES AND IN DERMATOLOGY.

FRANK E. SIMPSON, M. D.,  
CHICAGO.

Those who are interested in knowing the truth about radium and its possibilities should not fail to read the several reports issued in the last three years by the London Radium Institute. These reports are among the most solid contributions to radium therapy that have been published in any language and they tend to clear the field of much exaggeration from which radium has suffered.

A few words may first be said with reference to malignant disease. At the present time the general opinion among radium therapists is that operable cancers should not be treated by radium but should be operated on by the surgeon.

"When malignant growths are inoperable, however, radium has proven of the greatest value, first, in rendering the growth operable, secondly, in occasionally bringing about recovery without operation. In the report of the London Radium Institute for 1914 several cancers of the rectum are referred to which were treated by pre-operative radiation. Considered as inoperable before radium was resorted to, these tumors were so much diminished in size that their removal by the surgeon was successfully accomplished. I have treated with radium numerous inoperable malignant tumors in various situations. These include cancers of various parts of the mouth, of the esophagus, rectum, bladder, uterus, breast, etc.

"While it is difficult to make broad generalizations it is fair to say that a few cases have apparently recovered for periods of from one to three years; many cases have been benefited and the life of the patient has been prolonged; a few cases have received no marked benefit.

At some future time I shall make a statistical report of all of these cases.

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 18, 1916.

I wish now to refer briefly to a few cases which illustrate some of the points mentioned.

Case 1. (Carcinoma of cheek, lip and antrum. Recurrent.)

I first saw J. O., male, aged 44, on January 2, 1915. The primary growth had started as a cancer of the buccal mucous membrane about a year prior to my observation of the case. He had been operated on several times, but the growth had recurred after each operation. The last recurrence had been regarded as inoperable by several distinguished surgeons. Two days before I saw him he had consulted the Mayos at Rochester, Minn., and had been told there also that the growth was inoperable. Between January 2 and January 15, 1915, he received vigorous radium treat-

ment. The radium treatment was supplemented by x-rays applied by Dr. Skinner externally over the neck. A clinical recovery followed in this case in about eight weeks and the patient still remains in good health.

Case 3. (Cancer of the breast. Recurrent.)

Three years prior to my observation the left breast had been radically removed by Dr. W. C. Wood of Decatur, and Dr. W. A. Melton of Warrensburg. When I first saw her in July, 1914, there were three groups of nodules, the size of filberts, on the chest wall and in the left axilla.

These were regarded as inoperable by Dr. S. C. Plummer of Chicago and Dr. Melton. Treatment was begun with radium in July, 1914. Six treatments were given with 50 m. g. of radium element.

Two months later the nodules had disappeared, she had gained fourteen pounds in weight and seemed clinically well. Seven months later (March, 1915) a slight recurrence took place and she was given six more treatments with 150 m. g. of radium element. Two months later (May, 1915) she seemed entirely well. Seven months later (December, 1915) the patient had a severe attack of intercostal neuralgia. Although nothing superficial could be made out, deep carcinoma was suspected and two treatments with 200 m. g. radium element were given over the painful areas. She recovered from the attack, gained in weight and resumed her occupation. About four months later (April, 1916) another attack of intercostal neuralgia occurred. Owing to various circumstances it has been impossible to carry out adequate treatment and the future of this patient is of course problematical.

This case is cited to illustrate both the remarkable relief which radium sometimes gives, the certain prolongation of life, and also the uncertainty of the eventual outcome in malignant disease of this type.

There are two chief reasons for the failure of radium treatment in malignant disease. The first and foremost lies in the very nature of carcinoma or sarcoma, i. e., in the frequent malignant infiltration of the tissues far beyond the area in which radium is effective, or to which radium can be applied. Unless new ways are devised of applying radium we cannot expect that more than a certain small percentage of inoperable malignant disease of internal organs will be permanently relieved. A second cause of failure lies in faulty technic, i. e., in methods of applying radium which are entirely inadequate. Frequently the amount of radium is too small. Not less than 50 m. g. and occasionally 200 or more m. g. of radium element are essential in dealing with serious malignant conditions.

The distance into the tissue to which radium



Fig. 1. Epithelioma of Right Ear. Photograph Taken February, 1916.

ment at my hands and on April 15 I exhibited this patient before the Chicago Medical Society (North Side Branch) as a case that had made a clinical recovery under radium. When I last heard from this patient he was still in good health. This case is reported more fully in the *Chicago Medical Recorder* for July, 1915.

Case 2. Epithelioma of the posterior wall of the soft palate. This growth was regarded as inoperable by Dr. E. H. Skinner and Dr. Hall of Kansas City, who sent him to me.

This patient was given an exposure of ten hours in fractional doses by passing 50 m. g. of radium through the anterior nares until it came in contact with the



rays will effectively penetrate is still open to question. Following certain histologic studies it was widely accepted that a depth of 2 or 3 cm. is the farthest that effective therapeutic effects

the use of radium as a post-operative measure to prevent relapse after the removal of a malignant tumor. It is, of course, difficult to estimate the extent of the benefit to be derived from this measure.

The London Radium Institute states that in a series of cases in which operation was performed for malignant disease and in which recurrence would probably have taken place in a large percentage of cases, recurrence actually took place in only 19 per cent. This is believed to have been due to the post-operative radiation which was carried out.

My own experience in treating post-operative cases is favorable. My present plan is to begin post-operative radiation immediately after the operation wound heals. This plan has succeeded in some cases in apparently preventing a recurrence which might otherwise have been expected.

Turning now to certain diseases of the skin, cancer of the skin furnishes a brilliant field for radium therapy. I have now treated over 200 cases of epithelioma with radium and failure to bring about recovery has been rare. Failure, as a rule, occurs only in the very extensive cases, in

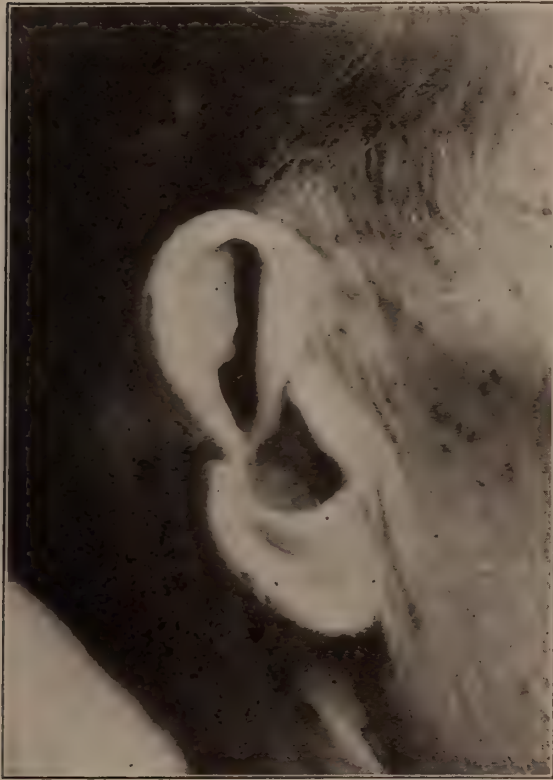


Fig. 2. Patient in Fig. 1 After Treatment with 150 mg. Radium Element (1 m.m. Screen) for 20 Hours in Fractional Doses. Photograph Taken May, 1916.

from radium may be anticipated. On the other hand, certain clinical effects that have been observed make it probable that radium rays may be effective at a much greater distance. For example, under radium treatment, the subsidence of severe symptoms, such as cough and dyspnea, due to pressure effects of a tumor in the mediastinum has been observed by Wickham, Hayward-Pinch, and others. A similar effect has been observed from the use of x-rays.

Radium in the vault of the vagina will easily fluoresce a piece of willemite applied to the abdomen, while photographic plates over the head will be darkened. This leads to the belief that the estimation of the exact depth to which radium effects extend is a complex problem and not entirely solved at the present time.

A somewhat neglected but important field is



Fig. 3. Vascular Bluish Red Venus of Forehead. Photograph Taken March, 1915.

which great loss of tissue has taken place and repair is almost impossible.

Cancer of the skin furnishes one exception to the general statement that operable cancers should be operated on. In many cases radium therapy alone or combined with surgery is superior to surgery alone. Especially is this true in the rodent ulcer type of epithelioma. In these cases resolution is usually prompt under radium, the scar is surprisingly good, while recurrence is uncommon.

*Angioma.* In certain types of angioma (birth-



Fig. 4. Patient in Fig. 3 After Treatment with 10 M.G. Radium Element (1/10 M. M. Screen) for 12 Hours in Fractional Doses. Photograph Taken December, 1915.

marks) radium occupies a unique field. It is especially valuable in the angiomas of children, because of its painlessness and the ease of application. In certain cases the cosmetic result is superior to that obtained by any other method.

*Keloids* furnish another sphere in which the use of radium is attended with success. In certain types of tuberculosis, lupus erythematosus, sycosis vulgaris, intractable pruritus (as of the anus) and some other affections of the skin,

radium has proven of signal service to the dermatologist.

In certain diseases of the skin it offers an alternative method to x-rays, while in a limited number of affections it holds a unique position.

(Lantern slides of various diseases showing the results obtained from the use of radium were then exhibited by the author.)

#### DISCUSSION.

Dr. Arthur W. Stillians, Chicago: I think Dr. Simpson is to be particularly commended for his modesty and his conservative attitude in regard to malignant growths, especially. There is no necessity to speak of skin cases because we have seen the pictures. I want to emphasize the value of radium in malignancy and the duty the physician owes his patient to use every method that is efficient in combating these malignant growths. The men who advise against operation when it is indicated are just as culpable as the men who advise against radiotherapy when it is indicated. It seems to me that we cannot afford to take chances with malignancy any more than we can with dynamite. We ought to strain every nerve to get effectual results, and the best results I believe are gotten by a combination of the methods which we have, radio-therapy and operation principally. I was glad to hear him mention the combination of radium and the x-ray in deep growths, because it seems to me reasonable that more can be obtained by combining these valuable methods.

Dr. Brittin: I desire to express my deep personal appreciation to Dr. Simpson for this very valuable paper. To me it is a revelation. I think that we as a society should feel under obligation to the doctor for bringing so clearly to our attention what can be done for what, to most of us, would appear to be a hopeless condition.

#### THE CLINICAL SIGNIFICANCE OF VICARIOUS GASTRORRHAGIA.\*

##### AN ANALYSIS OF FIVE CASES.

FRANK SMITHIES, M. D., AND ROBERT BOWEN, M. D.

From the Department of Diseases of the Digestive System, Augustana Hospital.

CHICAGO.

This report is concerned with the study of five instances of bleeding from the stomach, occurring in young females during the menstrual cycle. In none of these cases, after most careful search at laparotomy, was it possible to demonstrate any gastric lesion. The five patients occurred in the last 1,274 cases presenting them-

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



selves for the elucidation of dyspeptic anomalies in our clinic; an incidence of approximately 0.4 per cent. The series is reported to call attention to a peculiar type of gastrorrhagia, to emphasize the unsatisfactory results of surgical management and to attempt an explanation of the disorder.

Periodic bleeding from situations other than the uterus has been noted frequently in the literature. With *amenorrhea*, hemorrhage of the "true" vicarious type may occur from the rectum (Barrett), the nipples (Shear, Cleveland, Thornton, De Lee), the gums and gingival margins (Allport, Frank and Ellis), the nose (De Lee), the lungs (Ford, Ventura), the mouth and lips (Hauptman, Larrabee), the ear (Lermoyez), the nose and bowels (Pfister), the umbilicus (Gardner), or into the skin (Barnes, Heitzman, Schechner, Gould and Pyle, Pringle and Adamson).

Periodic bleeding *during menstruation* may occur from tissues far removed from the pelvis. In this type there is never *amenorrhea*. The vicarious hemorrhages may occur at each menstrual cycle or may irregularly accompany the catamenia. These "supplementary periodic hemorrhages," as they have been called, may be noted from the lungs with or without pulmonary lesions (Martinet), the breasts (Hancock, Hirschberg), the nose and gums (Walker, Hardwicke, Allport), into the eye (Paget), the lips and tongue (Parvin), abdominal scars (McGraw), in old lesions as of the skin (Pozzi), navel (Bloom), diseased nasal tissue (Patton), leg ulcers (Hooper, Galloway, or from gastric ulcers (Galloway, Giles).

That group of cases in which vicarious or periodic bleeding occurs where some previous lesion already exists appears to be of especial significance. In this class the initial lesion is readily overlooked, particularly if it is in an internal organ and has given rise to no symptoms. Attention to such lesion may be first directed by the appearance of a hemorrhage. If no symptoms appear between the menstrual periods, the bleeding may be styled "vicarious" instead of "supplementary" and the primary, local fault escape recognition and treatment.

Inasmuch as bleeding from the stomach is not uncommon when associated with such diseases as ulcer, malignancy, trauma, gall stones, cirrhosis of the liver, leukemia, Banti's disease, etc., authentic instances of periodic bleeding at the

menstrual cycle and at no other time are rare. When gastrorrhagia occurs, definite pathology must be looked for from the lips to the jejunum. Blood may be swallowed or regurgitated and later vomited. The possibility of deception must also be taken into consideration. Even should lesions be found in the stomach which are associated with hemorrhage only at the menstrual cycle, the condition is curious enough to excite more than ordinary interest.

The five cases which we report below are clinically important because profuse gastrorrhagia occurred only at menstrual cycles; thorough surgical and medical exploration failed to discover lesions of the alimentary tract or the lungs, blood vessels or hematopoietic system that would explain the hemorrhages, and from the fact that most carefully carried out surgical procedures gave little, if any, relief.

The cases in detail are summarized as follows:

Case 1. Miss R. Aged 28 years. Elgin, Ill. Trained nurse. Family history, negative. *Personal history*, always been nervous, always led very active and gay life socially. Denies venereal. Menses, 28-day type, regular; flows five to six days; abundant clots. Extremely nervous at menses, much pain. *Past history*, appendectomy, age 15; gastro-enterostomy on account nausea and vomiting at age 16; marked pyloric spasm, but no ulcer or scar. Well to two years ago. *Present trouble* dates back two years; at menstrual period suddenly bled, vomited one pint of bright red blood, but did not faint. Since then at every third to fourth day of menstrual period has vomited from a pint to a cupful of bright red blood. Before hematemesis has excruciating abdominal pain, general, and then begins to feel "full" in the throat (true globus)—at times has almost suffocated. Throat feels tense; pharynx appears white or gray "as though she had swallowed lye." In about two hours vomits red blood. Pain continues and has been relieved by 2 or 3 H. M. C. tablets. Between menstrual periods is absolutely free from pain and has never had a hemorrhage. On several occasions says she has bled from rectum during attacks. At onset of menses has much water-brash, pyrosis and feels as though throat were scalded. Urine, normal; swallowing, normal; bowels, very constive, for years; appetite, excellent between attacks; weight, gained steadily for past 3 years. *Physical examination*, well nourished, rosy cheeked brunette, enlarged tonsils, with infection; thorax, normal; abdomen, scars of operation, seen between attacks; tender over gall bladder region; vaginal, uterus retroverted, right ovary enlarged and tender, chronic endometritis. *Test-meal*, free HCl 30, total acid 44, no 12-hour retention. *X-ray*, pylorus closed, g. stoma patent; stomach empties very rapidly, no irregularity in contour. Tender over gall bladder, peristalsis vigorous. Later, explored and stomach negative for ulcer.

Uterus replaced, ovary removed. No improvement in symptoms, etc.

Case 2. Miss M. K. Housework. Aged 23 years. *Family history*, grandfather died of stomach trouble. *Personal history*, no acute infectious diseases, except scarlet fever and mumps as child. *Present trouble*, pain at regular intervals (menses) in epigastrium and abdomen generally, with vomiting and hematemesis. Duration, about three years. At menstrual period had sudden dull ache in pit of stomach, followed in few hours by profuse vomiting of coffee colored fluid; fainted. Pain had no relation to eating and not relieved by drugs. Vomitus tasted very sour; was well before menses ceased. Five times in the past two years has had recurrence of above picture; always at menstrual period. Last attack very severe and vomited blood and bile three times. Recently has had frontal and occipital headaches. Well between attacks. Bowels, diarrhea in attacks and has noted tarry stools, bowels O. K. between attacks; appetite, good; no eructations or pyrosis; urine, negative; weight, 20 pounds loss in last five months on account of rigid diet; strength, O. K.; no evidences of tuberculosis. Menses, 21-day type; considerable pain, flows four days, moderate amount. Hematemesis usually on second day. Operation, one year ago, appendix removed and gall bladder drained (no relief). *Physical examination*, tired looking, "peaches and cream" type; throat, adenoids and tonsils; thorax, negative; abdomen, scars, tender over gall bladder; rectum, uterus retroverted, endometritis. *Test-meal*, no retention, no pain after heavy evening meal. Free HCl 40, total 70, no blood. Microscopic, many rods and cocci. *Stool* normal; *Blood*, hemoglobin, 75 per cent, reds 4,200,000; whites, 6,500. *Screen*, esophagus, normal; habitus, enteroptotic, fishhook stomach, peristalsis vigorous, pylorus in spasm, duodenum negative, gastric and duodenal contour normal. No tenderness except over gall bladder region. Pylorus relaxed readily after atropin. *Subsequent course*, explored and no ulcer; gall bladder chronic inflamed, and ductus choledochus plugged; enlarged glands along common bile duct. Uterus retroflexed. Operation, cholecystectomy and uterus fixed. After course, relieved, but pain in stomach persisted and patient became addicted to opiates.

Case 3. Mrs. B. A., Madrid, Iowa. Jewess, aged 27 years. Housework. *Past history*, tonsillitis, gonorrhea, many abortions. (Wassermann, negative.) Curettage 3 times. Two years previous operation, gall bladder, and gastroenterostomy for possibly pyloric ulcer (ulcer not seen or felt but considered possible fissure in mucosa). Chronic dyspepsia with vomiting of blood at last of menstrual periods and headache. *Present trouble*, dates back 12 years; irregular dyspepsia, characterized especially by very sour stomach, burning water-brash and epigastric pains; these especially at menstrual periods. After operation two years ago was not improved. Began to lose weight one year ago. Seven months ago at menstrual period (2 day) had severe general abdominal pains that were

soon followed by nausea and vomiting, about one pint of clear red blood. Felt better after initial fright, but afraid to eat for many days. Was treated for ulcer. Well to just before next menstrual period when began to have aggravating sour stomach and A. M. nausea and just before noticed "show" vomited cupful of blood. Similar history with each succeeding menstrual period. Would vomit blood from first to third day period, always preceded by epigastric pain and general abdominal distress. Has been afraid to eat and lost 37 pounds in past four months. Is very weak and very nervous. Bowels, very costive, hemorrhoids; urine, normal; sleeps poorly, worries great deal; appetite, good desire at times, but capricious. *Physical examination*, flushed face, brunette, mucosae pale; enlarged tonsils, infected. Thorax, normal. Patient moderately undernourished. Abdomen, tender all over, perhaps more so just above navel. Rectal, hemorrhoids, no fissures. Uterus in good position, but large. Pus tubes and cervix lacerated. *Test-meal*, free HCl 12, total acid 18. No retention, no blood, many streptococci and staphylococci microscopically; second meal, free HCl 0, total 18. *Laparotomy* findings, very thick stomach with velvet-like mucosa that bleeds easily on handling; no ulcers or fissures, but pylorus in marked spasm. Pylorotomy and uterus and tonsils removed. Pathologically, no lesion in pylorus or antrum. Subsequent, no improvement in symptoms and has had two hemorrhages since, both at menstrual period.

Case 4. Miss H. G., aged 25 years. Nurse. *Family history*, negative. *Past history*, usual diseases of childhood. Operation for appendicitis (1911) and adhesions of the bowels. Had left pleural effusion last June; night sweats, cough in evening, still hacking cough once in while. Rheumatism or neuritis in left arm and shoulder for two weeks last summer. Has been jaundiced sometimes when had stomach spells. Comes on suddenly, lasts 3-4 days. Dysentery at irregular intervals since before operation, usually early morning diarrhea; clay colored stools when jaundiced; blood with attacks of dysentery. One attack of dysentery with abscess of throat at same time. Menstrual, age 14, 4-5 days, irregular, two to three weeks interval. Very painful all of the time, scanty. *Present trouble*, always has had a "weak stomach." During past five months, however, has had a definite type of dyspeptic disturbance, closely related to menstrual cycle. Just previous to catamenia feels restless and cold. As menses begin has "drawing sensation" in epigastrium and feels nauseated. Soon begins to retch and within a day of onset of menses vomits bile and blood. The blood is bright red, unclotted and varies in quantity from a cupful to about a pint. This gastrorrhagia usually continues two or three days. After the first day it is painless and patient has no symptoms, but nausea and weakness. At the termination of menses, dyspeptic attacks cease. The above cycle has been regularly repeated at catamenia during past five months. Bowels, diarrheic attacks alternating with obstinate constipation. Diarrhea frequently accom-



panies menses. Has noted dark stools of late. Appetite, poor; weight, lost 20 pounds in past two years; habits, introspective spells alternating with extremely active social life. *Physical examination*, rather pale, restless female. Diffuse acne lesions. No petechiae. Knee jerks exaggerated. Irregular recognition of hot and cold stimuli on right leg and thigh. Sensations negative otherwise. Tongue, labial and lingual herpes. (Patient says such always appear coincidentally with dyspeptic storms.) Tonsils, chronic infection with enlargement. Teeth, moderate pyorrhea and decay. Lungs and heart, negative. Abdomen, old, healed right-rectus scar. Kidneys moderately ptosed. Slight tenderness over gall bladder region, negative otherwise. Rectal, sphincter tight. Uterus in good position, but large and rather tender (patient just completing catamenia). *Test-meal*, slight 12-hour stagnation. Free HCl 0, total acidity 28; blood, positive. Microscopic examination shows excess of streptococci. *Stool*, altered blood, positive (Benzidin test). *Fluoroscopic examination*, oesophagus, normal; stomach of fish-hook type; greater curvature three finger breadths below navel, lesser curvature two finger breadths above navel; gastric contour normal; peristalsis vigorous; duodenum visualizes at once; stomach readily goes into spasm. Tender area over gall bladder. When examined after belladonna administration, stomach appears negative, but tender area over gall bladder region persists. *Blood*, hemoglobin, 75 per cent, R. B. C. 6,400,000, W. B. C. 8,400. Differential count, small mononuclears 21 per cent, large mononuclears 3 per cent; transitionals 5 per cent, mast cells 2 per cent, polynuclears 69 per cent. *Urine*, sp. gr. 1013, 24-hour quantity 19 ounces; clinical and microscopical examinations negative. *Subsequent history*, patient had laparotomy performed and complete abdominal exploration. Nothing was demonstrated but a "strawberry" gall bladder. No benefit accrued from operation and at last report patient was in a psychopathic hospital.

Case 5. Miss M. O'C., aged 24 years. *Family history*, negative, especially with respect to hemophilia. *Personal history*, has had chronic tonsillitis for several years. Three years ago had appendix removed for abdominal pain, no relief. One year later had right ovary removed and had uterine fixation to relieve dyspepsia, nervousness and dysmenorrhea. Developed large keloid at site of second incision and later this had to be excised. One year ago, had pylorotomy and posterior gastro-jejunostomy for relief of dyspepsia and gastrorrhagia. Never had venereal disease. Habits, likes a good time. *Present trouble*, dates back about five years. Began with pain in epigastrium associated with dyspepsia. The attacks came on regularly at menstrual period, was well between. Always had dysmenorrhea. Two years ago began to have severe epigastric cramps preceding appearance of catamenia. These would persist until flow was well established—she would then feel nauseated and several times bled so freely from the stomach as to faint away. Became very anemic, inas-

much as between menses could not gain sufficient blood to make up for amount vomited at catamenia. Twice bled from ears and once from rectum. Between menses was perfectly well but nervous. After almost fatal gastrorrhagia about one year since, laparotomy was performed. Thorough exploration was negative for any gastric lesion, but pylorotomy was done on "suspicion that a gastric fissure or small ulcer might be present." Patient stood operation well—healed rapidly—but six weeks after operation as menses came on had violent hematemesis with bleeding from ears at same time. Since then has had three definite attacks of gastrorrhagia at menses—and at every catamenia has had diarrhea and dark stools. Of late, has begun to vomit persistently, lose weight, become very nervous and weak. *Physical examination*, a high strung female of the chlorotic type. Reflexes exaggerated. No anomalies of cutaneous sensation. Throat, chronic tonsillitis; neck and chest, negative; abdomen, tense throughout. No areas of local tenderness palpable; rectal, uterus high and small. Tender over left adnexia. *Blood*, hemoglobin 80 per cent, R. B. C. 3,200,000, W. B. C. 9,000. Coagulation time six minutes. Wassermann, 0; urine, negative. *Test-meal*, 12-hour retention marked, free HCl 0, total acidity 48, blood, positive (Benzidin). Microscopically a great excess of yeasts, with many small sarcinal and diplococci. *Fluoroscopic examination*, stomach ptosed and greatly dilated. Deformed by pylorotomy and posterior gastro-enterostomy. Stomach goes into marked spasms so that gastro-enterostomy stoma is barely patent. It relaxes upon belladonna administration and upon manipulation. No local tenderness, but entire epigastrium is tender to even light touch. *Subsequent course*, patient placed on dietetic, hygienic and medicinal treatment. Improved markedly, but has had two moderately severe hemorrhages at menses since (1½ years).

The case reports bring out the following facts:

Patients' ages ranged from 23 to 28 years.

Type of patient: All the cases were of the volatile, hysterical class. In two instances stigmata of hysteria (fluctuating alterations in cutaneous sensation and emotional disturbances) were noted.

Previous infectious diseases: Apart from one instance of gonorrhea and one of pleurisy with effusion, and the general presence of chronic tonsillitis, nothing of great importance was chronicled.

Previous operations: From all the patients the appendix had been removed. All had had either cholecystectomy or cholecystostomy. Upon all some pelvic operation had been performed—fixation of the uterus, hysterectomy, or removal of one or both ovaries and tubes. Two cases had been subjected to partial gastrectomy and posterior gastro-enterostomy. In no instance was a

gastric lesion proved grossly or microscopically. One patient had had posterior gastro-enterostomy on account of persistent pyloric spasm, without demonstrable ulcer or gastric lesion. One patient developed enormous keloids requiring resection. In no instance did cessation of symptoms or marked improvement follow operative procedures.

Duration of presenting complaint gastric upset: This was chronic in all cases. Its duration ranged from 5 months to 15 years. The average duration was 9.6 years.

Gastrorrhagia: In the most pronounced instance (Case 1) this sign had regularly appeared at every menstrual period for 25 months. In cases 1, 2 and 3 gastric hemorrhage had occurred at each catamenia for the last 5, 7 and 5 months respectively. In case 5 six hemorrhages had occurred at menstrual periods during two years. The quantity of blood lost was variously stated as being "a cupful" or "a quart or two" or sufficient to cause fainting and shock. The blood was always unclotted and usually described as being bright red in color.

Dysmenorrhea was a characteristic feature of all the histories. It had existed from five months to rather more than two years. It was usually pronounced, often prostrating and always initiated or aggravated the digestive upset.

Features attending onset of gastrorrhagia: The hemorrhages were always associated with abdominal, usually epigastric, distress or pain. Not infrequently the pain was so severe as to require opiates. It was commonly accompanied by belching, eructation of sour fluids or food mixtures and generally reached its height before the gastrorrhagia. Almost uniformly, the pain with bleeding appeared toward the end of the second day of the menses. It usually diminished after the initial hemorrhage, but some discomfort commonly persisted not only throughout the menstrual period but for days or a week or two afterwards. Several hemorrhages on the same day or on succeeding days were noted. Previous to the hemorrhages a tightness in the epigastrium, chest or throat was complained of. In Case 1 this amounted to a sensation of suffocation with dread of impending death. The mucous surfaces of the throat were actually seen to be swollen, edematous and of such a gray white color as to suggest a diphtheritic membrane or the effects of a local caustic, e. g., lye. In this case the dyspnea became so marked that on sev-

eral occasions tracheotomy was considered. The congestion usually subsided in a few hours, especially if opiates were administered.

Types of dyspepsia in the hemorrhage-free interval: In all cases the hyperacidity syndrome was noted. It was mildly persistent and became aggravated at the catamenia, or had occurred at infrequent intervals. Not infrequently, as will be observed below, high hydrochloric acid values were not noted in test-meal analyses. The disturbance very likely indicated painful pyloric or gastric spasm.

Test-meal analyses: Persistent gastric stagnation existing more than eight hours was noted twice. The free HCl values ranged from 0 to 40, the total acidity from 18 to 70. In two instances Benzidin tests for blood were positive. Both these cases exhibited some degree of gastric stagnation.

Stools: Benzidin test for blood was noted but once. In two cases obstinate constipation was the rule. In the three remaining cases diarrhetic stools accompanied the gastrorrhagia or preceded it. In Case 5 diarrhetic stools were constant at the menstrual cycle for two years, even when there was no gastric hemorrhage.

Nutrition: The most marked instance of gastrorrhagia (Case 1) had steadily gained weight for the past three years. The remaining four cases had lost from 15 to 40 pounds in from 6 months to 2 years. The weight loss was usually attributed to dieting or to dread of eating lest hemorrhages should be precipitated.

Blood examinations: In Case 5 a moderate grade of secondary anemia existed (Hb. 60 per cent.; R. B. C. 3,200,000, W. B. C. 9,000). In the remaining cases the hemoglobin ranged from 75 to 90 per cent., while the red counts were practically normal. The stained smears revealed mild chlorotic anemia.

Fluoroscopic examination: Using the barium sulphate opaque meal, violent pyloric or gastric spasms were observed in all the cases. These were so marked in the two instances where partial gastrectomy and gastro-enterostomy had been performed that the stomata to the jejunum were barely patent until antispasmodics (atropine, belladonna) had been administered. In none of the cases were lesions definitely indicating gastric lesions demonstrable.

Urine analyses were negative in all cases.

*Critical Comment*—The above cases would appear to emphasize the importance of recognizing



the possibility of bleeding from the stomach in a certain class of females of the hysteroid type. In view of the unsatisfactory results following the careless diagnosis of an organic gastric lesion (usually ulcer) it would seem that in all instances of gastrorrhagia occurring in females, careful inquiry should determine whether or no such bleeding were associated with amenorrhea or dysmenorrhea. Even though no demonstrable pathology was noted in careful exploration of the stomach or duodenum in the cases here reviewed, it cannot be positively stated that minute fissures, ulcers or erosions did not exist. One can state, however, that a much more dependable opinion regarding their non-existence can be given after careful exploration than when such procedure has not been carried out. Even should superficial erosions or fissures be present in cases of this class, their activity, with bleeding, at the menstrual cycle, and only then, is a feature well worthy of note. In such event the cases fall under the classification of "supplementary vicarious hemorrhages," suggested by French clinicians.

Attention should also be directed to the presence of chronic foci infection existing in all the cases here analyzed. Such foci were noted or had been observed constantly in the tonsils, appendix, ovaries and tubes, and the gall bladder. While the eradication of such foci is highly desirable, yet our cases did not show great improvement following such measures. This doubtless occurs because infection or toxic substances had already brought about changes in organs other than at their original site.

*Explanation of the Causation of Vicarious Gastrorrhagia*—At this time no positive explanation can be given. We suggest that two factors should warrant consideration: 1. *The relationship of the glands of internal secretion to the menstrual cycle.* It would appear likely that the glands periodically liberate hormones which have a selective action upon the mucous membrane of the uterus and bring about congestion with succeeding physiologic hemorrhage. When for some cause (anomalies of uterus, tubes, ovaries) the mucous lining of the genitalia is unable to physiologically respond to its hormonal stimuli, such hormones may periodically produce congestive effects upon other body tissues, preferably upon those with a lining of mucous membrane. These congestive phenomena may result

in hemorrhage at sites other than the uterus, either in conjunction with menstruation or without menstruation. Such anomalous periodic hemorrhages we then recognize as vicarious menstruation or "supplementary" bleeding. 2. *The association of periodic congestion of mucous membranes with foci of infection.* We have above commented upon the occurrence of local foci of infection existing in the tonsils, appendices, gall bladders, etc., of our cases. It is not unlikely, if we are to consider the work of Rosenow important, that the gastric mucosa is chronically the seat of infecting organisms. These may not be sufficiently potent to produce actual lesions, e. g., ulcer under ordinary circumstances. At the menstrual cycle two factors may modify conditions: (a) An increased local congestion of the gastric mucosa which may be only physiologic in degree, or in the presence of anomalies of the genitalia, may be excessive. In such event, increased congestion is closely associated with increased bacteriolysis with liberation of bacterial endotoxins. These locally liberated poisons may produce multiple, minute toxic bleeding erosions, after the fashion of those experimentally produced in animals by Bolton. (b) In the absence of marked disorder of the genital apparatus, normal menstruation may rob the body of protecting bacteriolytics. If local infection exists in the portal blood or in the gastric wall, at such time bacteria may rapidly multiply. If such bacteria are hemolytic cocci, their multiplication in the gastric mucosa may result in local damage to epithelial covering, with the production of multiple erosions and hemorrhage. In instances of already existing gastric ulcer (giving symptoms or symptomless) where gastrorrhagia has been noted only in connection with the menstrual cycle, it is conceivable that local lowering of resistance by normal menstruation or added bacteriolysis by unphysiologic congestion may result in either added injury by excessive bacterial proliferation or as a consequence of locally liberated bacterial endotoxins due to sudden increased bacterial destruction.

*Diagnosis*—The periodic recurrence of gastric hemorrhage only during the menstrual cycle should suggest careful observation of the type of patient and of the character of the presenting dyspeptic complaint. While in certain instances of vicarious or "supplementary" gastrorrhagia, lesions of the stomach that cannot be demon-

strated at laparotomy to eye or hand may exist, yet review of our series of cases carries certain warnings against hasty surgery. Even if gross lesion of the stomach should be found at laparotomy, the prognosis with respect to cure is limited. Search should be made for local foci of infection about the head and mouth and in the gall bladder and appendix. In all instances of periodic gastrorrhagia careful examination of the pelvic organs should be made. While instances of vicarious menstruation are recorded in which the genitalia are found to be normal, yet in all cases of this series some pelvic anomaly was found.

*Treatment*—Our patients were of the hysteroid type. It would seem that measures toward the improvement of the mental state are strongly indicated. Rest, change of occupation or environment with avoidance of all forms of over-activity should be insisted upon. Physiologic stimuli to the pelvic apparatus sometimes is of service inasmuch as instances of vicarious menstruation are cited where the disturbance ceased following marriage and childbirth. Abnormalities of the genital apparatus should be corrected if such can actually be proved to exist. Indiscriminate operations should, however, be discouraged. Local foci of infection should be early and thoroughly eradicated.

With respect to the gastric anomaly, a carefully conducted medical regime should be carried out before operative measures are considered. Surgical procedures should be strictly limited to the type of case in which gross abnormalities can be demonstrated. Medicinally, saline cathartics, antacid mixtures, belladonna, and toward the approach of the menstrual period bromides are indicated. In rare instances opiates may be required to relieve abdominal pain. They should be used with extreme caution on account of the danger of bringing about drug habit. In two of our cases, at least, the indiscriminate use of opiates resulted in the patients' confinement to psychopathic hospitals. When infantile uterus or deficient ovarian tissue can be demonstrated, it would appear that a certain amount of amelioration of signs and symptoms may be secured by organotherapy.

The treatment of the gastrorrhagia itself is best accomplished by hypodermatic administration of morphin, rest in bed, lavage of stomach with hot water, and in severe cases, by whole blood

transfusion or the exhibition of large doses of horse serum.

#### REFERENCES.

1. Barrett: *Virginia Med. Monthly*, 1875, ii, 671.
2. Stear: *Lancet* (London), 1882, i, 786.
3. Cleveland: *Trans. Am. Gyn. Assn.*, 1912, xxxvii, 91.
4. Thornton: *Jour. A. M. A.*, 1909, i, 211.
5. De Lee: *Prin. and Prac. of Obs.*, 1913, 19.
6. Allport: *Jour. A. M. A.*, 1885, iv, 147.
7. Funk and Ellis: *Pubs. from Jefferson Medical College and Hospital, Philadelphia*, 1915, vi, 136. (Report of case with extensive review of literature, for which we are much indebted.)
8. Ford: *Am. Jour. of Obs.*, 1889, xxii, 154.
9. Ventura: *Gaz. d. Ospedali*, Milan, 1907, 129, 1347.
10. Hauptman: *Munch. Med. Woch.*, 1909, lvi, 2114.
11. Larrabee: *Boston M. & S. Jour.*, 1907, clvii, 207.
12. Lermoyez: *Bull. et Mein Soc. Med. d. hop. de Paris*, 1899, xvi, 706.
13. Pfister: Quoted by Findley; *Trans. Am. Gyn. Soc.*, 1912, xxxvii, 81.
14. Gardner: *Med. Record*, N. Y., 1898, liv, 173.
15. Barnes: *Brit. Gyn. Jour.*, 1886, ii, 173.
16. Heitzman: *Med. Jahrbuch*, 1884, 9.
17. Schechner: *Wien. Klin. Woch.*, 1905, xii, 1258.
18. Gould and Pyle: *Anomalies and Curiosities of Medicine*, 1897, 8-19.
19. Pringle and Adamson: *System of Medicine*, Allbut and Rolleston, 1911, ix, 646.
20. Martinet: *La Presse Med.*, Paris, 1909, xvii, 582.
21. Hancock: *Med. News*, 1895, lxvi, 509.
22. Hirschberg: *Zentralbl. f. Gyn.*, 1914, 26.
23. Walker: *Jour. A. M. A.*, 1908, li, 1077.
24. Hardwicke: *West London Med. Jour.*, 1911, xvi, 215.
25. Paget: *Lancet* (London), 1882, i, 787.
26. Parvin: *Trans. Am. Gyn. Soc.*, 1877, i, 135, and ii, 482.
27. McGraw: *Am. Jour. Obs.*, 1884, xvii, 912.
28. Pozzi: *Treat. on Gyn.*, New York, 1897, 472.
29. Bloom: *Arch. Pediatr.*, 1897, xiv, 693.
30. Patton: *Laryngoscope*, 1914, xxiv, 184.
31. Hooper: *Med. Times*, 1882-3, xiii, 433.
32. Galloway: *Jour. A. M. A.*, 1913, lxi, 1897.
33. Giles: *Menstruation and Its Disorders*, 1901.

#### DISCUSSION.

Dr. Milton H. Mack, Chicago: Dr. Smithies has gone into this subject so thoroughly that he has not left much for any one of us to discuss. This condition is one of extreme rareness. In a number of years of gastro-intestinal work I can recall but one case in my practice, which I realize now was a condition simulating this type. This was a girl of 24 or 25 years of age, with gastrorrhagia at the menstrual period. She was of an extremely nervous and neurasthenic type. Unfortunately, this case left the city before I had opportunity to watch it for any length of time. I believe this is a condition which is the result of bacterial organisms, as has been suggested by Dr. Smithies.

The question of thorough examination preceding any operative procedure is of utmost importance in all of these cases. I am not a great believer in operative procedures upon the stomach in cases of gastrorrhagia. The cases reported by Dr. Smithies show there was no gross lesion found and for that reason I believe the patient should be placed in the hands of the internist, and not in the hands of the surgeon.

#### MALIGNANT ENDOCARDITIS.\*

ALBERT HOWARD BAUGHER, M. D.,  
CHICAGO.

The term malignant endocarditis has not yet become fully defined. At one time it may be ap-

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society, at Champaign, May 17, 1916.



plied to a condition commonly known as benign endocarditis, and at another to a grave and malignant condition which almost invariably ends fatally. It is the purpose of this paper to give a résumé of the cardinal factors of the malignant type of endocarditis. While it is well established clinically that there are two distinct types; one a benign condition tending to recovery, or perhaps in many instances from which recovery is complete, and which is often associated with rheumatism, chorea, gonorrhea, scarlet fever, measles, pneumonia, colds, and other conditions; there is also unmistakable evidence that this milder type often merges imperceptibly into a rapidly progressing and fatal infection, generally known as malignant endocarditis. Most authors are agreed that these two types are one and the same disease, and differ only in degree. My experience forces me to this view, and to substantiate it I wish to present the following thesis: T. J. Horder<sup>1</sup> was perhaps one of the first men to properly understand the exact nature of the organism causing infectious endocarditis, and was successful in reproducing the disease in animals, but the task of establishing the exact character of this type of organism, and of differentiating it from pneumococci and other streptococci was largely left to Rosenow,<sup>2</sup> who, in 1909, in conjunction with Billings,<sup>3</sup> in a series of fourteen cases of endocarditis, recovered the organism that had for a long time been thought to cause endocarditis most often, and reproduced the disease almost at will in different species of animals. But in these papers the description of the organism was not so definite as we feel safe in making it today, and its characteristics varied from a staphylococcus to a pneumococcus, and thus included at least four distinct types of bacteria, which are as follows: *Streptococcus hemolyticus*, *Streptococcus viridans*, *Streptococcus pneumoniae*, and *Staphylococcus*. Notwithstanding the fact that an almost specific organism has been repeatedly described in connection with various stages of infectious endocarditis, there is a common feeling that the condition is bacteria free at times. And among the workers with large experience Libman<sup>4</sup> may be mentioned as having described a "bacteria free stage" of chronic infec-

tious endocarditis. While this is practically true, from a purely clinical standpoint, judging by the low percentage of positive blood cultures which have been reported, it must be conceded that this class of cases is gradually becoming smaller as our methods of investigation are becoming more perfect and exhaustive, and, finally, but not of least importance, as our clinicians are becoming more persistent in their methods of seeking the etiology of febrile diseases soon after the onset, and during the early stages of the infection. Believing, as we do, that endocarditis is a secondary disease, it is quite reasonable that bacteria and the other evidences obtained from the blood may be most easily demonstrated during the period of invasion and the early onset of the disease, just as appendicitis and other pus conditions give most symptoms as the products of the focus of infection are being released most rapidly into adjacent regions and to the action of the blood stream. The underlying principles governing endocarditis are, no doubt, similar to those described by Hektoen,<sup>5</sup> in a paper on the mechanism of recovery in pneumonia. He discussed the factors which tend to free the blood of bacteria and thus make the percentage of positive blood cultures less as the disease progresses in the cases in which there is recovery. Similar evidence is accepted for typhoid fever in particular, and for many other infections. But, as is well known, in diseases in which organisms occur in the blood, and which proceed steadily or rapidly to a fatal end, the organisms usually occur in increasing numbers up to death. Cultures, therefore, should be taken early after the onset of the infection or during periods of maximum invasion, before the destructive elements of the blood and tissues have appeared to a sufficient extent to overcome the invasion. If the condition is one in which chills are associated, the best time for examinations is during or just following the chill, for when metastases are well established fewer positive results have been obtained, both from a cultural and leucocytic standpoint. It, however, must not be construed from the above generalizations that it is impracticable to take blood cultures during the course of an infection, and especially is this not true for endocarditis, as the heart lesions and other secondary foci, as infarcts, thromboses, and the original focus, all may con-

1. Quart. Jour. of Med., 1909, ii, p. 289.

2. Jour. of Inf. Diseases, 1909, vi, p. 245.

3. Chronic Infectious Endocarditis, Arch. Int. Med., 1909, p. 409-431.

4. J. Hop. Hosp. Bull., 1906, xvii, p. 215.

5. Mechanism of Recovery in Pneumonia, with special reference to the crisis, pp. 254-257, Jour. A. M. A., 1914.

tinue to act as points from which repeated invasion of the blood stream may take place. In endocarditis, as well as in other diseases in which we have a definite leucocytosis, it has been found that when the polymorphonuclear neutrophilic count is above 80 per cent positive blood cultures are most often found.

Another fundamental bacteriological fact<sup>6</sup> for the proper appreciation of infectious endocarditis is that the various forms of streptococci tend to localize by some elective sense or affinity, and also that they may by mutation change their elective affinity, and that the streptococcus which causes endocarditis has a quite constant affinity for the endocardium and particularly for the endocardium of the valves.

Quoting Rosenow<sup>7</sup> again, in one of his more recent articles concerning the bacteriology of appendicitis, he says that the evidence in favor of the view that a focus of infection in the tonsil (or teeth) is primary, and the infection in the appendix is secondary, is strong. The reverse, namely, that the bacteria in the tonsil are brought there by the blood stream, hardly needs to be discussed, because the inflammation in the tonsil is most acute for some time previous to the attack of appendicitis. He states, further, that in the absence of foreign bodies, the results of observation and experiment indicate that appendicitis commonly is a hematogenous infection, and that it develops when for some reason or other the organisms in the focus, usually streptococci, have acquired an elective affinity for the appendix, and at the same time gain entrance to the circulation. He further states that the results bear out his theory that a focus of infection is to be looked on not only as the place of entrance of bacteria, but also as the place where they may acquire the varying affinities necessary to infect distant organs and tissues.

These generalizations can be applied to many of the infections, and especially to those caused by some form of the streptococcus, and one of the chief points I wish to make in this paper is that endocarditis in all of its form is an infection, the clinical picture of which may not necessarily be due to the endocardial lesions alone, but to the multiple lesions, which may be present throughout the body during the entire course of the infection.

To substantiate this view, there is a vast amount of clinical and pathological evidence. Recently, Jackson<sup>8</sup> has observed in connection with bacterial lesions in experimental streptococcus myocarditis that the endocardium was also involved. Bracht and Wachter have also shown that these conditions are often associated. Thus endocarditis must be regarded as a special infection which chiefly attracts attention from the standpoint of the endocardium, but that other tissues may also be involved.

While various organisms have been associated with endocarditis, the most constant one is a streptococcus, and where most care has been taken it has most often been described as the streptococcus viridans, and in this paper no reference will be made to any other organism as causing endocarditis, for in the experience of the writer an authentic case caused by any other organism has not been observed, though it is undoubtedly true that other organisms may be implanted in or on the heart valves, and thus cause endocarditis. I believe that this is true of the gonococcus and possibly of the staphylococcus.

The atria of infection are varied, but are usually to be found in connection with the respiratory tract. The teeth, tonsils, nasal sinuses, bronchi and lungs are most often held accountable, though in about one-half of the cases the avenue of infection has not been determined. This is in part largely due to lack of care in history-taking and to vigor of careful investigation for the various possible primary foci.

The pathology of endocarditis is relatively simple and may be regarded as consisting essentially of a secondary infection with localizations in or on the endocardium. The primary infection may be located in a crypt of the tonsil, an alveolar abscess, pyorrhea, nasal infections or pneumonia. The endocardial lesions are inflammatory in character, and are most often found in the region of the valves of the heart, especially the mitral valves. This lesion is usually described as vegetative from its appearance, and opinions vary as to whether it occurs primarily in or on the endocardium of the valves. But it is quite reasonable that the starting-point is in an implantation of the etiological organism. Necrosis, fibrin deposits, organization, polymorphonuclear infiltration, contractures, and loss of valve substance

6. Rosenow, Jour. Amer. Med. Assoc., 1915, vol. lxxv, pp. 1687-1691.

7. Jour. of Inf. Diseases, 1915, xvi, 240-268.

8. Jour. of Inf. Diseases, 1912, xi, pp. 243-252.



may occur in the order of the usual inflammatory processes. Following the lesions of the valves and adjacent endocardium, the endothelium of the aorta and pulmonary veins nearest the heart and the chorda tendinæ are most often involved. When the endocardial lesions are established lesions throughout the body, usually a type of infarct, may be found. These may be located in the skin, kidneys, spleen, brain, lungs, or in any portion of the body where detached fragments of the valvular vegetations or organisms may be deposited. Thromboses of various arteries are common. The spleen is usually enlarged, and in old cases may show marked hyperplasia. Mesenteric lymph nodes are often enlarged. Parenchymatous degeneration of the various organs is constant in the fatal cases.

The symptoms occur in the order named, and depend upon the variety of the infection, together with its duration and the pathological changes which have taken place. The patients give a history of backache, headache, muscular pains, prostration, shortness of breath, chills, anorexia, restlessness, paralysis, aphasia, and loss of consciousness. Many of the cases are ambulatory even after the streptococcus viridans is demonstrated by cultures made from the blood, but sooner or later in the fatal cases the patients are forced to bed and pursue a gradually declining course.

The objective findings are few, and are often overlooked until comparatively late in the infection. Inspection is usually futile; palpitation and percussion may reveal a slightly enlarged heart, and especially if the valve is incompetent; auscultation may or may not reveal a murmur or slight irregularity of the systolic sound. The patients are often cyanosed. The spleen is usually enlarged, and may be tender. The liver may also be similarly affected. Small petechial hemorrhages may be found in the skin, conjunctivæ and mucous membranes. These usually occur in crops, or they may occur singly, and are often painful. Anemia is evident because of the pallor of the skin and mucous membranes. A slight yellowish discoloration of the conjunctiva may be present. The extremities may be edematous, and occasionally the fingers may be slightly clubbed in chronic or benign endocarditis, which has extended over a period of years. The temperature ranges between 99 degrees and 103 degrees, as a rule. It may be normal at times, however, and

again during a chill it may reach 104 degrees, or even higher.

The laboratory findings are usually of most value from a diagnostic standpoint, for they give positive and constant evidence that the infection is of a pyogenic nature. The leucocyte count in nearly every instance is increased and ranges between 7,500 and 20,000. It is most often around 9,000 to 14,000. Cases with apparent leucopenia are also quite common, but where careful differential counts are made it will be found that the polymorphonuclear leucocytes are relatively increased, and that this is a constant factor and varies directly with the clinical symptoms of the patient. The writer has never seen a patient in whom the differential leucocytic picture resembled that of typhoid or malaria, and it can usually be differentiated from secondary infection with tuberculosis; splenomegalia and myelogenous leukemia can usually be differentiated by the blood picture. The type of anemia is secondary. Blood cultures should be made during the height of the infection, and preferably just following the embolic showers. Large quantities of media containing glucose and ascitic fluid favor growth. The media may either be firm or fluid, and the temperature after inoculation should not be lower than 30 degrees C., or higher than 40 degrees C., though growths may be obtained in violation of this principle. On blood agar plates the colonies are small and have a characteristic green zone. The size of the colonies is smaller than that of the pneumococcus, which also have a green zone, and in bouillon they are usually first found as small spherical masses in the fibrin of the blood.

The prognosis is most unfavorable when the organism is demonstrated by blood cultures. In my own series of positive cultures there have been no recoveries, but Dr. J. A. Capps has given me permission to report a recovery in his practice the organism having been demonstrated as present by Dr. Rosenow. I saw this patient on numerous occasions, and followed the condition of the blood and urine carefully. The leucocyte count was slightly higher than normal, and the polymorphonuclear count often rose to 70 and even to 80 per cent. Blood and casts were repeatedly demonstrated in the urine. The temperature ranged between normal and 101 degrees, though it was usually seldom higher than 99.8 degrees. This patient was treated energetically and sys-

tematically with rest, nourishing food and sodium cacodylate and alkalies.

Another case of equal interest to the above is one that I have recently seen with Dr. Mix at Mercy Hospital. This case is of especial interest because of the history extending over a period of sixteen years, with multiple and varied evidence of embolic processes occurring at different times throughout this period, and because of the present intensified picture of grave endocarditis. This patient has given three negative blood cultures, during the present attack, one of which was made by the writer. In this instance 20 c.c. of blood was obtained and divided by placing in ten different culture media containers, the combined media consisting of about 600 c.c., part of which contained agar, and also 1 per cent glucose. The differential leucocyte count at this time showed 76 per cent polymorphonuclear leucocytes.

The following short history is given: The patient is sallow, emaciated and entered the hospital because of pain in the right side and in the epigastrium. He states that all the members of his family have frequent bronchial coughs. He has had the usual diseases of childhood, and at the age of ten years had rheumatism, which was followed by endocarditis, at which time he remained in bed one month; at fourteen he was confined to bed for two months; at twenty, for one month, and again at twenty-six for a short time, but was not able to work for four or five months. This attack was preceded by quinsy. He does not recall having had tonsillitis previous to the other attacks.

The present trouble began in August, 1915. He was awakened with a severe pain in the upper right quadrant of the abdomen, and was relieved by two hypodermics, but on the following day a soreness was felt over this region. In the latter part of November he began to have night sweats, and in December found that he had a temperature that reached 100 degrees. He continued to work, but after a few days experienced a distinct chill, which was followed by still another in a few days more. Early in January he began to vomit his meals, had a bronchial cough, and was somewhat icteric. On January 10 he came home with pains in both sides of the chest, and with a temperature of 103 degrees. He was in bed ten days. His temperature gradually disappeared. The cough at this time cleared up in one week, and at no time did the sputum show blood. He went to work for two days, but came home with acute arthritis, which has not yet disappeared. This forced him to bed for ten days, and then he went to Hot Springs, but while taking the baths grew worse and was again confined to bed with a temperature reaching 102 degrees in the afternoons. During this period he had two severe chills. He arrived in Chicago, February 26, with a severe headache which had lasted for two days; and

on February 29, had a violent chill, and developed another severe pain in the right upper quadrant. The leucocyte count was 20,000 at this time. During March, April and up to the present time his condition has been rather uniform, although he has had repeated evidence of embolic showers during this period, as manifested by petechial hemorrhages in the skin and under the nails, blood and casts in the urine, aphasia, hemiplegia and drowsiness approaching coma. At the present time the patient's apparent condition is much improved. Auscultation, however, reveals a systolic murmur, which the patient says he has had since the first attack at ten years of age.

The most essential element in the treatment of endocarditis is absolute rest in bed. When precordial pain is present, or when the action of the heart is rapid, an ice-bag should be applied over the heart. This treatment, however, should not interfere with the patient's comfort in any degree. Sleep should be insisted upon, and sedatives should be given when necessary. Next important to rest is food. This should be carefully selected from the standpoints of nourishment and ease in digestibility. The intestines must be kept free from constipation by proper attention. Anti-rheumatics may be given if rheumatism is present. Sodium cacodylate seems to be of value. Cardiac stimulants should usually be avoided. Coffee and small doses of digitalis may, however, be given.

The specific treatment consists of vaccines and serums, but the results have not been very encouraging. Combined administration of vaccines and serums has also been of little avail. This is the most promising field of treatment, but as yet a potent specific vaccine or serum has not been found.

In connection with endocarditis the most important thing to be remembered is prophylaxis. And even after the onset all possible foci of infection should be sought and corrected as far as possible.

#### SUMMARY.

1. That endocarditis in all forms is a hematogenous infection, with localizations in or on the endocardium primarily.

2. That it is usually fatal when the organisms are demonstrated in the blood.

3. That prophylactic treatment and rest give best results.

5201 Ingleside Avenue.



## DISCUSSION.

Dr. C. Martin Wood, Decatur: I have here a history which I thought might be interesting in connection with this case, as it shows the close relation between chorea and rheumatism, scarlet fever and endocarditis.

This was a girl who, when I first saw her in 1901, was 9 years of age. At that time she had had scarlet fever. During convalescence from the scarlet fever she had chorea and a short time after that she had the first sign of an endocarditis which was made apparent by the heart murmur. Three years later she had follicular tonsillitis for several days and the systolic murmur was more plain at that time. She had some dyspnea then, showing that endocarditis was probably present. Then, in 1905, a year later, she had fever for several days and pain around the cardiac region. One year later, after a period of uninterrupted good health, she had an attack of rheumatism. When she recovered from the rheumatism the incompensation became more apparent. From that time on, for a year, she had frequent attacks of recurrent endocarditis and incompensation until her death in 1907.

There, over a period of six years, were these attacks, subsequent to the scarlet fever and the chorea, thus showing the relation of these diseases with some streptococcic infection. The thought came to my mind whether the whole condition of this child was not due to a lack of immunity against the germs of that type; whether, if early in the course the vaccine treatment might not have been of benefit; but in those days that was not so much used and it was never tried in this case.

Dr. Daniel Eisendrath, Chicago: There are two conditions which call for a differential diagnosis:

First, an infection of the kidney without any localizing sign, which pointed to the kidney as the source of the infection.

One case which I would like to report at this time is that of a young girl, 18 years of age, who in the third week of her puerperium began to have chills and fever. Following that her temperature would drop for a day or so and she began to be more septic, and one of our most competent internists after going over the case thoroughly concluded it was a case of septic endocarditis, and felt very positive of his diagnosis. The kidney was considered. It was not tender to the touch; it was not enlarged; there was no ordinary sign pointing to the kidney. I asked permission to cystoscope this patient, and upon doing so, found evidences on one side of the bladder or of the ureter of an infection of the kidney and securing his permission to do some lavage of the renal pelvis, we did that on two occasions at intervals of two days, and the temperature dropped after 10 days of continuous chills and fever—that in every way resembled a typical case of malignant endocarditis and the blood cultures, of course, were negative in this case. After this treatment of the renal pelvis of which I have spoken, the temperature dropped and remained down. That makes the second case of that kind where very excel-

lent medical men have made a diagnosis of malignant endocarditis. Those are the cases where the infection reaches the kidney through the blood current or where it comes upward from the bladder.

We are now beginning to know that the infection in women can reach the kidney through the lymphatics of the broad ligaments and then up the ureter without involving the bladder at all; so it explains a good many of these cases of puerperal infection of a mild degree, and a severe degree of infection of the kidney proper.

Another class of cases which were diagnosed as malignant endocarditis and found not to be such, are cases of infection of the biliary tract where we have the old type of what is known as Charcot's intermittent fever, irregular chills, fever and sweating, that is, the characteristics of malignant endocarditis, and of cholangitis, catarrhal or mildly suppurative. Those are cases where there is an absence of absolute positive signs. It is simply a matter of exclusion, that you have to consider the liver; and by drainage of the common duct and the gall bladder, those things get well very promptly.

Dr. Samuel Munson, Springfield: Some years ago, at the meeting of the American Medical Association at Atlantic City, I heard Dr. Solis Cohen make the statement that every child that had joint pain or pain and fever should be put to bed.

It is of great importance that children with fever and any symptoms of pain should be put to bed. A child I saw one afternoon had some pain in the knees and the next morning I found a true endocarditis, from which the child succumbed within a few days. Recently, a child with a sore throat was treated by the mother for about a week and when I saw the child with acute ear symptoms, symptoms of otitis media within 24 hours after the ear symptoms, the child was voiding almost pure blood from the kidney. This was a case where I expected we would have the symptoms of endocarditis, but fortunately we did not.

But one cannot tell in any of these infections of children when you may have endocarditis, and the important thing in these cases is that these children should at once be put to bed.

Dr. A. H. Baugher, closing the discussion: Vigorous efforts should be made to diagnose this condition of endocarditis, and the most positive factor is the positive blood culture containing the streptococcus veridans. Associated with, and of aid in causing us to seek, this condition is the high leucocyte count, with a high polymorphonuclear count, and when possible, certain clinical symptoms.

The differentiation noted by Dr. Eisendrath is of especial interest and requires great care and skill, especially in regard to the functions of the kidney; and the cases of biliary fever also offers some difficulty in diagnosis. But when all the cardinal symptoms of these various diseases are considered, there is usually something which points towards a definite diagnosis; proof of which can be presented by the various methods of diagnosis.

## THE MANAGEMENT OF EMPYEMA IN CHILDHOOD.\*

A. MERRILL MILLER, M. D.,  
DANVILLE, ILL.

Empyema is one of the grave surgical lesions of childhood. Its frequency and high mortality justify consideration by internist and surgeon alike. Whatever improvement we may expect in this high mortality must come from prompt and radical measures following an early diagnosis. Its morbidity, in addition to the mortality, has been a disappointment to surgeons. All types, from the chronic empyema with large granulating surfaces, to the small persisting sinus, are the indisputable price of early indecision or delay.

The reason for its chronicity is largely mechanical. Although this lesion may last for months or years it is seldom tuberculous. While tuberculosis often is the cause of adult empyema, its frequency in childhood places it last in etiology.

There seems to be little, if anything, of congenital or acquired malformation contributing to the etiology of empyema.

The great majority are secondary to some existing inflammation, usually post-pneumonic. The pneumococcus, however, is not alone in its production. More careful bacteriological examination of fatal cases shows an increasing number due to streptococci. Whittemore has pointed out that the streptococcus is present in about fifty per cent. of cases coming to autopsy. As a factor, aside from the bacteriology, we have to consider the sanitary surroundings of these cases as a contributing element. It is essentially a disease born of poor hygiene and malnutrition.

Dealing with a rigid thoracic cage of varying contents, we have a mechanical problem in addition to the toxic. The anatomical characteristics of childhood readily lend themselves to deformity from neglect in active treatment. Soft tissues give way before constant pressure, and bony deformity involving not only the thorax but also the spine are nearly constant in unrelieved cases.

No period of childhood seems exempt from pleural infections. Losee (J. R.) has record of a child two days old showing streptococcus bacteriema and empyema at autopsy. Two other cases are cited, one on the seventeenth day, the other at

five weeks. About fifty per cent. occur during the first five years, during which period mortality runs high. In children under one year it is attended by a frightfully high death rate. Indeed, those under twelve months seldom recover under any management or method of treatment.

Diagnosis is important and does not depend upon a single sign, symptom, or procedure except the use of an aspirating needle. Sometimes when the usual physical evidence is insufficient, and the operator gets a "dry tap," the location of pus may be determined by the x-ray. This should not be relied upon as a routine, nor to the exclusion of physical methods. Its greatest use will be found in those encapsulated pockets between lobes or to determine the presence of pus in unusual locations. The value is only relative since a thickened pleura without pus may lead to erroneous interpretation of plates. Modified respiratory sounds together with a waxy pallor and emaciation explain the error of confusing it with tuberculosis.

The curative treatment of empyema is distinctly surgical, which contemplates the removal of pus and pleural exudate. This is sometimes urgent as combined toxic and mechanical manifestations render it none other than a real surgical emergency. So impelling is the need for early removal of fluid to relieve cyanosis and air hunger that puncture with aspiration must often be done and radical procedures reserved for more favorable operative conditions. With young children puncture will relieve tension and should be done without an anesthetic. This must not, however, be accepted as the final and curative effort. It is distinctly an emergency procedure; *resection is the cure*. Those who argue for puncture alone must have a delightful disregard of the real pathology or of the patient. I grant this simple puncture is right if you will tell me which cases have and which do not have fibrin. The infected pleura throws out large quantities of fibrin which collects in lumps too large for aspirating.

Concerning anesthesia this should be said—the nearer it approaches analgesia the better, since the coughing reflex must not be abolished. Cough will force out large lumps of fibrin, loosen light adhesions, and expand the lung tissue by change in atmospheric pressure. Sudden lung expansion followed by the patient's collapse is a cherished delusion not based upon facts.

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



Ingenious valves and aspirating devices have found transient favor with operators. The use of a skin flap is right in theory and operative for a period of 24 to 48 hours. After that time, however, owing to infiltration with leucocytes and edema, its valve action ceases. This may be said of all: When a portion of a rib is removed, as it should be, the cavity opened, positive pressure is present; no mechanical appliance lends itself to change this pressure till expansion takes place. With sufficient opening and proper drainage this will be accomplished. My own preference is for the simple, self-retaining rubber spool found in any drug store or shoe store. It is cast in one piece, just enters the cavity, and answers every need. This presents a flat surface over which dressings of sterile gauze may be placed without causing discomfort incident to the tube secured by a stitch. The sloppy pus dressing forms a more nearly perfect valve than most of the special devices for this purpose. Posture will accomplish all we hope for by the use of irrigat-



Fig. 1. Rubber Spool (two-thirds actual size).

ing fluids; pleural lavage has lost favor with most surgeons.

Proper management cannot ignore medical post-operative attention. It should be conducted with the utmost care. Of the greatest importance, particularly at this period, is an out-of-door convalescence. To sunlight and sanitation, not to surgery alone, belongs the credit of many recoveries. Bear in mind we have a general sepsis; sunshine and fresh air will do more to bring about a cure than any amount of medication within doors. The value of this as a therapeutic measure has recently been emphasized by Markoe and by observations of Crile.

508 The Temple.

#### DISCUSSION.

Dr. Frederick Dyas, Chicago: Dr. Miller has rightfully said that the persons must have a deplorable disregard of the true pathology of empyema when they believe the condition may be cured by simple puncture, when one realizes that in these cases which go to post-mortem the pleura is frequently from  $\frac{1}{2}$  to 1 inch thick, then it is easily understood that a simple

puncture will be of no avail in curing such a condition. The anesthetic is a very important part of the procedure. This is particularly true in the empyemas which are the result of a recent pneumonia. We are all familiar with the acute muscular changes which occur in the heart as the result of acute infection. A death from an anesthetic while a patient is in this condition is very easy; therefore, in practically all these cases the rib resection may be done under local novocain anesthesia. I have done it repeatedly in the cases of small children, especially in the County Hospital.

In those cases which are no longer acute, in children, it is necessary to provide drainage at the lowest possible portion of the cavity. This portion may be ascertained in a number of ways. One way is by introducing an olive-tipped sound, and another way is by the x-ray, having first packed the cavity with a barium-soaked gauze. The introduction of fluid containing bismuth or barium is not sufficient because the level of the fluid will change with the position of the patient. Another method is by the cystoscope. This, however, has not been satisfactory. Beck's bismuth paste has, of course, here a field of usefulness after the cavity has been narrowed down. I believe, however, in the hands of those not familiar with its use, it has frequently resulted in considerable harm because it is introduced into the cavity too early, into cavities which are too large, and has been allowed to remain and the patient will either get a damming back of all the infectious material or will get bismuth poisoning.

The methods which are used for the cure of these chronic cases are, first of all, the Williams operation, which provides for the resection of a number of ribs anteriorly and posteriorly and allows a portion of the chest wall to sink in; the Estlander operation, which provides for the removal of two or more ribs; the Schede operation, which is still more extensive and practically removes all the ribs on one side and thereby allows the collapse of the thickened pleural walls, and the Fowler-Delorme procedure, or the decortication of the lung. This is a dangerous procedure because of the resulting hemorrhage and the air fistula which may result from it. Robinson, of the Mayo Clinic, has recently published a paper in which he does rib resection and sews into the cavity large muscle flaps obtained from the latissimus dorsi muscles, thereby filling up the cavity and thus satisfies those conditions which are necessary for the healing of a septic cavity, namely, its obliteration.

William R. Parkes, Evanston: In the consideration of the management of empyema in children we may well regard it from two standpoints; that of the general practitioner and, secondly, from the surgeon's point of view. The medical man sees the patient from the beginning of the disease with all its complications or accompanying lesions, such as peripneumonia, cardiac, myocardial or meningeal involvements, single or multiple abscesses of the lungs, and severe constitutional evidences of infection such as apathy, coma, typhoid state, weak heart and high

temperature. The medical man sees here a very sick patient with grave prognosis. Mortality in these acute cases is high, not only on account of the empyema, but also on account of these various complicating lesions. The surgeon, on the other hand, as a rule, sees the little empyema patient in the course of the disease when it has weathered the course of the storm of the acute infection, the empyema remaining long after the other foci of infection have cleared up. Even now, though the patient shows signs of air hunger, loss of flesh and strength, is anemic and cachectic and runs a septic temperature, the prognosis is decidedly more favorable. In fact, if the patient is more than a year old surgical treatment promises a high percentage of cures.

Infants under one year, with empyema, are decidedly poor surgical risks. Nevertheless they are dependent upon the surgeon for what relief can be given. Early diagnosis of empyema is, of course, very important and followed by proper drainage often prevents grave complications and fatal results. When one is uncertain as to the presence of empyema the exploring needle usually clears up the diagnosis and should be used as soon as any clear suspicion is aroused. Early needling the chest does no harm and often saves days of watchful waiting for decisive physical findings. The x-ray, too, is at our service and when used in connection with physical and clinical findings is quite dependable as an aid in making an accurate diagnosis.

The treatment, as Dr. Miller said, is surgical. But as to the time of operation, I am in accord with those who prefer to delay radical operation until the very acute inflammatory process has subsided and the attending complications are somewhat under control, as severe sepsis, diarrhea or other unfavorable symptoms contra-indicate any operation of sufficient gravity to add shock to the patient.

Aspiration of a considerable portion of the fluid with a large needle or trochar as a tentative measure is indicated to tide the patient over until able to survive the more radical, curative drainage.

As to the operation of choice in children, while no definite rule can be followed, the advice to puncture only or simply incise in infants under one year, and to resect in older children, in each case using tubular drainage, seems to me very rational.

As to the methods of drainage: When simple puncture and drainage without rib resection is performed, the syphon drainage attachment greatly facilitates the cure. It avoids the daily soakings of the dressings with offensive pus, assists in the expansion of the collapsed lung, and thus shortens the convalescent period.

After operation the patients should be allowed out of bed and out in fresh air and sunshine as soon as possible in order to improve their general health. Any nasal obstructions should be relieved and the tonsils and adenoids be removed to develop deeper and better breathing. Exercises of the muscles of respiration as by blowing soap-bubbles or the use of blowing bottles, should be encouraged.

Dr. C. M. Wood, Decatur: I think this operation of simple incision with tubular drainage should be done by the general practitioner. I have done many and have seen a good many more empyemas operated on in young children and have never seen one yet that failed to get well with simple incision and tubular drainage and I think the reason may be because it has been done earlier and there has not been so much delay and waiting to take the child to a hospital in a distant city, or something of that kind.

Of course, in cities, where the children are in poor physical condition, it may be necessary to do a rib resection, but if you get a case early I think resection of a rib in a child is very seldom necessary and if it needs to be done it can be done later.

Dr. Miller, closing the discussion: I think there is nothing about these cases that the general practitioner cannot handle since he sees the case so early and resection may be done at a time when the child is in good physical condition. They should, however, act promptly.

I do not feel that mere puncture with the insertion of a tube is sufficient. Not infrequently a tube of soft rubber pressing against the child's rib will cause a small area of necrosis which will be quite slow in healing up. That may exist for a number of months when the child is apparently cured of the empyema. I have seen such cases.

Concerning the anesthetic, that is a question where we may differ. In hospitals the local anesthetic can perhaps be used more often than in the home. The parents will object just a little bit to the pain to which the child is subjected by the local anesthetic. Personally, I see no objections to using no anesthetic at all in puncturing these cavities or in giving a very small quantity of the anesthetic, providing analgesia and not anesthesia is produced.

Concerning the use of syphons and other appliances such as Dr. Parkes has mentioned, I feel that they are not necessary. They will not cure and will not change the atmospheric pressure in the lungs sufficiently to expand the lung tissue. The use of syphons is not practicable in most homes.

## X-RAY INTERPRETATION.\*

FRED S. O'HARA, M. D.,  
SPRINGFIELD, ILL.

### FOREWORD.

If a dreamy-eyed citizen, with a riot of luxuriant hair, and black rimmed nose-glasses fastened to his person with a yard of mourning ribbon, were to stand before this assemblage and offer to instruct his audience so that in a fortnight each and every one of you could enter an art gallery and pick out the Whistlers, Sargents, Bodenhausens, Corots, Titians and Rembrandts, you

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



would be justified in assuming the position of doubting thomas-cats. I believe you will accept it as an axiom that such ability would accrue only from years of study and application; and even then, unless the student possessed that indescribable something (for sake of illustration let us term it "Art Hormone" or "Art-Ferment"), all training would be inadequate.

In the time at our disposal, we will lay siege to a subject that is far more complex than the most erotic dream of the king of the cubists; a subject wherein the correct interpretation of light, shadow and half-tone may spell life or death of a part, a member, or of the entire body.

In this tabloid course, I trust that omissions may receive absolution and that commissions may be condoned.

During the two decades since the discovery of the x-ray, its uses have become so varied that there are but few Roentgenologists who attempt to cover the entire field. X-ray men in the larger centers of population have chosen portions of the field in which to specialize, but in the smaller cities, of fifty thousand and less, the Roentgen worker must be a "master specialist."

To intelligently consider the subject of "Interpretation" in an essay to which is allotted fifteen precious minutes, it is essential that the subject be subdivided and that we consider only that portion of it in which we can come to some really definite understanding in the time at our disposal. Incidentally, we should consider some phase of the work that will be of interest to the profession at large.

Let us exclude "screen" work, inasmuch as it deals with the thoracic and abdominal viscera.

For like reason let us pass over the subject of interpretation of thoracic and abdominal plates.

With the same idea, it will be necessary to exclude from this essay that work which is being done upon the cavities in the cranium and upon the teeth. Interlacing as they do, with the special work of "ear, eye, nose and throat" and dentistry, they will be taboo at this time. However, we must not forget the recent investigations concerning the causes of various arthritides and infectious processes in the joints, and the relation of the teeth to the general system; the pathology at the roots (or as the dentists would say, "apices") of these teeth is shown only through aid of the Roentgen ray.

To intelligently express an opinion concern-

ing the interpretation of an x-ray plate, the most essential appurtenance is experience. I have seen an absolutely normal skiagraph of the hand interpreted under oath (and with honest intent) as caries of all the articular ends of the bones. I have known of an extensive operation upon the tarsal bones being performed under the guidance of an over-exposed x-ray plate that showed nothing abnormal save a beginning arthritis. I do not question the honesty of purpose of everybody concerned, but I sadly regret that the mellowing "tincture of time" was not added to the x-ray knowledge disclosed in the interpretation of those plates.

Experienced x-ray workers do not hesitate to confess that the average skiagraph contains a mine of information that is unexplored. We are valiantly scratching the surface and carefully examining everything dug up, but time has been too short to permit us to know all there is to be known about this negative light and its shadows. When the Roentgen ray attains the age of the microscope there will be a better story to relate.

Like the larger number of people today, who are unable to distinguish the difference between a twenty thousand dollar painting and a fifty dollar copy, so it is with the interpretation of a Roentgengram. Only by years of training does it become possible to interpret the light, shadow and half-tone that go to make an x-ray picture of the existing pathology.

In order to get somewhere in these fifteen minutes, we had better make a start, so let us take up interpretation of the long bones. The spongy expanded ends of these bones, due to their lighter structure, cast darker shadows upon the plate than do the more compact bone-shafts. The compact tissue is easily differentiated from the cancellous; and the medullary canal has about the same x-ray density as the ends of the bones. In the normal bone, the periosteum is x-ray continuous with the compact tissue; not infrequently, however, the only clue to solution of continuity of the osseous structure is found in a buckling or break in the periosteal line.

In ordinary fracture, the break is readily visualized in the Roentgengram, but there is wonderful opportunity to show the condition as less or more serious than it actually exists. In the knowledge that the closer to the part rayed is the x-ray tube, the greater will be the distortion, unless the pathological condition be directly beneath

the anode of the tube, it is imperative that when raying a fracture, the target of the tube be at least thirty inches from the plate, to avoid distortion. This distortion may be overcome in a second way. Make a plate of the part under suspicion and by its guidance make a second picture, this time with the anode of the tube directly over the point of interest. In passing, let it be suggested that in the wrist, elbow, ankle, knee, forearm and leg, two plates, at right angles, should be taken, unless the exposure be stereoscopic.

Stereo-radiography is the process that will give a true delineation of conditions. Two pictures are made, the part being kept immobile, whilst plates are changed and the tube shifted  $2\frac{1}{2}$  inches at convergent angles. After the plates are finished they are placed in a Wheatstone stereoscope and studied. All x-ray pictures show length and breadth, but the stereo-Roentgenogram, properly made, will give the third dimension of thickness, granted that the observer has two eyes. There is no other single procedure that will give so much information concerning the human body as will the stereo-radiograph. All things being equal, it is the ideal x-ray procedure, but even this requires experience and study for its exact interpretation.

The x-ray diagnosis of tumors, cancers, erosions, exostoses, caries and many other bone conditions has surely passed that stage where it will need a champion in an audience of representative medical and surgical men. The bismuth paste, and even without artificial aid, the constant improvement of x-ray apparatus, plates, and technic has made the pin point localization of destructive processes a matter that is far from guesswork.

In each and every problem of today, be it small or large, is an element that is of paramount importance. That element is the personal factor. No man can master the entire field of medicine and retain his mental poise. The old saying, "It takes nine tailors to make a coat" may be brought up to date in the words, "It takes several doctors to make a diagnosis." This is a day of specialization. Each and every one of us have power to do some thing or things better than "the other fellow." Happy and fortunate is he who finds his niche, realizes the value of his find, and sticks to it.

The Roentgenologist occupies an unique place in the medical world. Take a good photographer,

a first-class electrician, a knowledge of optics, good mechanical skill, some knowledge of chemistry, a vast amount of patience and a preliminary training of the "isms" and "ologies" that make up a medical course, and you have the foundation of an x-ray worker.

But when we come to the final word in the interpretation of an x-ray plate, at this day and date, the very best and safest advice to give to the internist and surgeon is: Know your Roentgenologist. If he is a reasonably sober, capable and scientific man, let him do your x-ray interpretation. Fit his findings with yours and those of your assistants, and out of all make your diagnosis.

#### DISCUSSION.

Dr. Frank Smithies, Chicago: This paper of Dr. O'Hara is very timely in calling attention to some of the impossibilities of the work. He has covered a very broad field, certainly much broader than I am in any way capable of discussing, but it seems to me, after being closely in connection with the interpretation of x-ray work for some years, first of all it is quite essential that we drop the term "Roentgenologist" with respect to the man who does the work, if we are in any way to get the most out of the work done. It has been said that the term "Roentgenologist" applies to a disease and not to a profession, and sometimes, from the various forms of interpretations of x-ray work that are given to the medical profession I must say that this term is not a misnomer. The man who does x-ray work must, first of all, be a real doctor; he must not only be able to recognize disease, but to know pathology and to know the limitations and the recognition of pathological conditions by means of shadows. If he goes at the work from this point of view there is a strong probability that he will be a useful citizen in his professional community, but if he goes at it with the idea of being able to determine all kinds of ills by means of modified electric light, he is going to be a harm in his community. At least that is my impression. Unfortunately, nowadays, the general practitioner has become sort of self-hypnotized with regard to what we can do by means of x-rays, so that it has led to the referring of a lot of patients to the x-ray man for almost impossible things.

The bulk of the diagnoses that are to be made upon sick patients have to be made by the doctor a long way removed from x-ray operatives.

It seems to me that in the elaboration of the commercial pushing of the various mechanical devices there is a temptation to forget, and the good old method of stripping and examining the patient and looking at him, from the standpoint of a doctor and not from that of a mechanic, is gradually being lost. It also seems to me that not only is the profession being harmed, but patients are being harmed.

(Continued on page 150.)



# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society, under the direction of the Publication Committee of the Council.

## GENERAL OFFICERS, 1915-16

PRESIDENT.....WILLIAM L. NOBLE, Chicago  
 PRESIDENT-ELECT.....E. B. COOLLEY, Danville  
 FIRST VICE-PRESIDENT.....C. F. NEWCOMB, Champaign  
 SECOND VICE-PRESIDENT.....R. A. MCCLELLAND, Yorkville  
 TREASURER.....A. J. MARKLEY, Belvidere  
 SECRETARY.....W. H. GILMORE, Mt. Vernon  
 (Ex-officio Clerk of the Council)

## THE COUNCIL

District 1—EMIL WINDMUELLER, Woodstock.  
 District 2—EDWIN S. GILLESPIE, Wenona.  
 District 3—CLYDE D. PENCE, Chicago.  
 District 4—AUGUST H. ARP, Moline.  
 District 5—C. S. NELSON, Springfield.  
 District 6—C. D. CENTER, Quincy.  
 District 7—C. F. BURKHARDT, Effingham.  
 District 8—C. E. PRICE, Robinson.  
 District 9—FRANK C. SIBLEY, Carmi.  
 CLYDE D. PENCE, *Chairman*, 3338 Ogden Avenue.

Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

## MEDICO-LEGAL COMMITTEE

ANDY HALL.....Mt. Vernon  
 WILLIAM O. KROHN.....Chicago  
 GEORGE STACY.....Jacks nville  
 D. R. MACMARTIN.....Chicago  
 C. B. KING, *Chairman*.....3938 Jackson Blvd., Chicago  
 THOMAS D. CANTRELL, *Secretary*.....Bloomington

## GENERAL COUNSEL

ROBERT J. FOLONIE.....39 S. La Salle Street, Chicago

State society will pay no bills for legal services except those contracted by the committee. Notify the Chairman at once. Don't employ attorneys.

AUGUST, 1916

## Editorials

### THE NEW RULING IN THE HARRISON LAW.

The recent circular mailed to physicians from the Collector of Internal Revenue calls attention to a new ruling to the effect that "a physician may prescribe, administer or dispense only for the immediate needs of a patient; and in the case of an addict or habitue he may prescribe only in a legitimate effort to effect a cure. Prescriptions written for this purpose must show a decreasing dosage and must bear the endorsement that they are written for an addict in an effort to effect a cure. Under no circumstances is a physician permitted to prescribe or dispense narcotic drugs to an addict for the purpose of permitting him to indulge his cravings for the drug."

There is not a reputable physician in the United States who does not approve of effective

common sense legislation of the sale of habit forming drugs. But the legislation thus far brought forward and the interpretation put upon it by laymen in the Treasury Department have been drawn and interpreted with such evident disregard of the practical problems of drug addiction (through ignorance or otherwise) and the whole proposition up to now has partaken so strongly of the flavor of a police measure directed against drug addicts and the medical profession that it is not surprising the antagonism of the physicians and the intelligent laity is surely making itself felt.

The law is in its main intent a wise and unobjectionable piece of legislation, but the administrative ruling where narcotic administration is continued, "that constant reduction of dosage is regarded as evidence of good faith" is a reflection on medical teaching and demonstrates an insufficient understanding of addiction disease and its rational handling.

The underlying or basic element in the narcotic drug problem is a definite disease entity within the body of the drug addict. This disease, like every other disease, is complicated and varying in its individual manifestation, making each case a law unto itself, which accordingly must be studied by the physicians and treated as pathological and symptomatic conditions arise.

The latest ruling by the Internal Revenue Department makes it impracticable and dangerous for the average reputable medical man to have anything to do with narcotic addicts.

In enacting anti-narcotic legislation Congress seems to have centered its attention upon the mere taking of narcotic drugs; it has attempted to control by legislation the possession and use of narcotic drugs with too little study and appreciation of fundamental facts. It failed to appreciate the extent to which legislation would affect the thousands of upright, innocent and worthy addicts who do not possess the fundamental characteristics of the class against which it legislated. In other words, it legislated against all addicts as addicts, instead of appreciating that different classes of addicts present entirely different problems and require entirely different handling.

In the light of our present knowledge there is not and cannot be a routine specific treatment for this disease, therefore, when the revenue department sees fit to read into the law an arbitrary in-

terpretation, and issues a ruling that will restrict and limit the physician in his efforts to treat the addict, we believe that the ruling will and should meet strenuous objections from everybody who has the interest of an addict at heart.

Unduly restrictive legislation has failed to relieve the situation and further unduly restrictive legislation will only increase the complexity of the problem and add to the present burden.

Illicit traffic in narcotic drugs and the conditions surrounding it have not diminished or improved since the passage of the narcotic laws. This has surely not been due to lack of restriction upon the medical profession in general. Quite the opposite has been the case of many addicts. Denial of drug supply by physicians in fear of the law has driven the wealth addict into hasty and insufficiently investigated specific and routine cures—and the poorer addict into the underworld and illegitimate sources of supply.

Before we have any new interpretations and further legislation regarding narcotic addicts a campaign of enlightenment should be conducted. Those who are handling the legal and lay aspects of narcotic addiction need education. Until the community provides competent and adequate medical care for its narcotic addicts and accords to the honest physicians protection as well as restriction, the illicit traffic will continue and grow.

Laws to accomplish the greatest good and cause the least needless hardships or inconvenience, should be drawn and rulings interpreted by those who have a broad and comprehensive knowledge of drug addiction and its associated problem. Any interpretations of the law arbitrary in nature and immature in character which place restrictions on a physician's judgment or sets a limit as to how, when or in what quantity he shall administer narcotic drugs, or lays down definite or routine rules for the management of a patient afflicted with a disease into which many factors enter, is a presumption of superior medical knowledge on the part of laymen which is not justified and cannot be tolerated.

Physicians, as a rule, are afraid to treat an addict. The druggists are afraid to fill prescriptions when written by the physicians for narcotics. The addict must have his drug; his bodily need demands it; his diseased condition demands it, so long as he has this awful disease. He knows of no place where he can be cured, no place where

he can go with any certainty, or even hope of relief.

Such a situation tends to drive the honest and deserving patient to the widely advertised cures, into the underworld, to the insane asylum or to suicide. The handling of the problem of the underworld supply is not going to be solved by too restrictive legislation of the honest physician. Erroneous, impractical and arbitrary rulings by the Internal Revenue Department which make it practically impossible for the honest physician to be connected with and conscientiously care for a case of narcotic addiction are a boon to charlatans and shysters and the illicit underworld traffic.

The ultimate solution of the problem of drug addiction should be in the hands, exclusively, of medical men and any legal restrictions which drive the care of the addicts out of the hands of honest medical men simply postpones the day when this ideal may be consummated.

To one who has watched the trend of the times it is definitely apparent that there is a well defined movement on foot, all over the United States, to impose many limitations on the practice of medicine. It is time that medical men protest and show to the public the unfairness and dangerous tendencies of such legislation, otherwise a large number of laws are sure to appear on the statute books in the near future the purport of which will be to impair the usefulness of the practitioner and impose hardships and dangers upon the sick and suffering.

Unfortunately medical men do not concern themselves sufficiently with legislative matters even when their own rights and interests are involved.

---

#### INFANTILE PARALYSIS.

Grave concern is felt throughout the entire country over the continued spreading and increasing of infantile paralysis. During the last six or eight years this disease has appeared in various localities in this country with markedly bad results. An epidemic of rather large proportions and strikingly bad results appeared a few years ago in northern Minnesota. In this epidemic a rather large proportion of young adults were attacked, which resulted in many fatalities and many permanent cripples. It appeared in other states in epidemic form soon after.



At the time of these various outbreaks perhaps a sufficiently strict quarantine has not been maintained. The laity have not been thoroughly informed of the dangers of contagion or of results, and have not been made to realize that they also have a duty to perform in regard to contagious diseases. The ignorance expressed by people who are not afraid of contagion should no longer be tolerated. The day has passed when Johnnie should be allowed to visit his playmate, Jimmie, while the latter is ill.

People should be taught in a more emphatic way that children are much better off while out in the open air, away from the crowds. It is neither necessary nor desirable that children should be allowed evening after evening in a crowded theater.

Still, after all precautions are taken that are practicable, this disease may flare up where least expected, which demonstrates that we know little concerning it, and our scientific workers must keep on the alert. They must work out some manner of destruction for this disease. Until our laboratories can tell us more about the malady it behooves every physician to be especially careful that he passes no case by unsuspected and thus endangers other children.

We cannot resist comparing this disease with the outbreak of the "foot and mouth" disease in cattle, which menaced the live stock industry of this country. Within thirty days after the outbreak a rigid quarantine had been enforced in all of the states likely to be involved. The government became active in the eradication of the disease. The several states left nothing undone to wipe out the infection, and large amounts of money were spent in freeing the country from it, with a result that within eighteen months not a single case was left in the United States and not an outbreak has occurred since.

The inactivity of our government in epidemics of infantile paralysis and of other diseases affecting humanity would indicate that our live stock interests are of greater moment and of greater value than the lives of our babies.

Supreme and Appellate Courts of Illinois. Statutes of Limitation, so-called, are legislative enactments limiting the time within which actions may be brought in court; upon written contracts the term is ten years; upon unwritten and implied contracts, five years; injuries to the person, two years. In actions against those in contractual relations alternative right to sue in contract or in tort (negligence) often exist, thus: A street car company injuring a passenger may be sued in contract for breach of the implied contract to carry safely, or in tort for the injury; likewise, a physician in case of a claim of malpractice may be sued upon his implied contract to treat with prudence and skill, or in tort for negligence.

Many suits have been instituted in the past against physicians for claimed malpractice, after expiration of two years, in form contract. There being no express decision upon the subject a physician seeking advice has been uniformly advised that five years from cessation of attendance must be treated as the term of limitations until our courts settled the question.

The Illinois State Medical Society, in a suit for malpractice, raised the question and secured a decision from the Appellate Court for the Fourth District holding that the provision barring claims for injuries to the person is controlling and bars recovery in *two years*, irrespective of the form of action. I regard the securing of this decision the most notable achievement of the Medico Legal Committee since its organization. To our extreme gratification, the Supreme Court has since delivery of this opinion affirmed the same rule in a suit presented by a street car company.\* The rule may now be asserted with reasonable confidence that an action for civil malpractice, except in case of infants, insane persons, etc., is barred in two years after the treatment complained of ceases. To obviate unpleasant notoriety of the physician whose case was used to test out this question the title of the case in the Appellate Court is withheld.

#### STATUTE OF LIMITATIONS IN ACTIONS FOR MALPRACTICE.

ROBERT J. FOLONIE LL, B.,  
CHICAGO.

Two opinions of great importance to the profession have been recently rendered by the

#### DOCTOR COTTON.

Dr. Cotton is dead. It is easy to say, and hard to realize. But he is dead. Did you know him? Did you ever sit under his ministrations? Then

\*Handtoffski vs. Chicago Con. Tr. Co. (not yet reported), Supreme Court of Illinois.

you loved him as I loved him. Doctor Cotton is dead, but not before he had solved life's mysteries for himself, as each of us must do. When, on July 12, after a brief indisposition, he rounded out almost his three score years and ten he had been at work right up to the last day of his long and busy life, and literally died, as he had wished to die, with his boots on, quietly falling asleep in his own arm chair.

Indeed, the evening before his death he had made an appointment to examine a child with



ALFRED CLEVELAND COTTON, M.D.

heart trouble at the very hour when he, himself, succumbed to the same affection.

The funeral services, held at the Warren Avenue Congregational Church, with a large audience of his friends and patients in attendance and amid a wealth of floral beauty, were peculiarly impressive. The eloquent and scholarly address of his pastor, Dev. Dr. Jenkins, rightly laid special emphasis upon Dr. Cotton's remarkable personality. To come into casual contact with him was to feel the largeness of the man, the irresistible force of his mind and character. To

know him intimately was a liberal education in itself and a charming experience.

The manner of his passing was, in a measure, significant of the dominance of his spirit. In spite of evident failing heart and labored respiration, which he had experienced for some days upon slight exertion, the vigor of Dr. Cotton's mind was unimpaired almost to the last hour; his old time humor, his wonderful memory, his rich imagination and his unselfish thoughtfulness were with him to the end. And so, as he lay in the last repose of death, his noble features seemed in sleep; he would surely open his eyes and speak to us in familiar, measured words, every one worth while. Who of us can ever forget that voice of his, so remarkably rich, that explosive yet melodious laugh, punctuating his contagious humor, and all those little mannerisms of facial expression and gesture—the smile of his eye, the way he carried his magnificent head? Who of us shall ever forget the delight of his reminiscences or the worth of his opinion and advice where wisdom was the need? Was there ever a man more fearless than he in his loyalty to what he considered vital truth and justice, or more unselfishly loyal to his friends? So strong upon me are these memories of him that I must thus digress from his funeral day to the man that shall always live with those who knew him well. His expression to a friend was genuine, right out of the marrow of his spirit. His influence was stimulating, dignifying and ennobling.

Following the brief service, led by Dr. Jenkins, Dr. Cotton's comrades of the G. A. R. paid genuine tribute to his patriotism. At Graceland cemetery, Masonic ceremonies conducted by Garfield lodge, of which he was a member, fittingly concluded this burial service in honor of a man who will be sadly missed by a large circle of patients to whom he had ministered. The memory of him will be cherished by a host of students whom he had taught, and by men and women with whom he came in contact. Among medical men of Chicago and its vicinity there is none other so widely popular and beloved as was Dr. Cotton. This fact is a splendid monument in itself.

No one of us can fill the place of any other man, however humble. Each leaves his own impress upon his time, even as his individual thumb print is the symbol of his peculiar personality, indelibly different, all his own. But this is par-



ticularly true of the man who towers above his fellows in the bigness of his personality. The subtle combination of gifts and graces with which the Almighty endowed Dr. Cotton raised him high above us in personality and ability, yet he delighted in the level of his common fellow men. Fortunate are we who have enjoyed his fellowship and his friendship. This is not the place for a biographic sketch. Those who are not already familiar with the details of his life and official relations can find an extended sketch of him in the second volume of the *Historical Encyclopedia of Illinois*, published in 1915. And it will interest his friends to know that he had a recent photograph taken at Walingers Studio, 37 South Wabash avenue, Chicago. It is unusually fine, as perpetuating the smile and alert expression which he often turned upon us in conversation. As it looks down at me from its frame upon my office wall, I am in good company.

ARTHUR M. CORWIN.

#### JAMES WHITCOMB RILEY.

James Whitcomb Riley, poet laureate of the common people,—year, and of all American people—is dead. His *Mortal Sun* has set. Yet Riley will live in the hearts of Americans forever. No man in this country was so universally loved, and no man has so entered the hearts and lives of his people. He was very dear to the hearts of boyhood. Riley was averse to the present day hustle and bustle. He believed people should enjoy life in simple and natural ways. Could his ideals of life and living be carried out, certainly the advancing mortality rate of adult life would be reduced. Who among us can read “Knee Deep in June” or “The Old Swimming Hole” and not wish for a day in which to get back to nature. If we took to heart more of his teachings, old age might somewhat be deferred.

#### T. B. NOTES.

There is no definite dosage in the use of tuberculin. Each case must be separately studied and tuberculin tolerance noted from the clinical picture.

The x-ray is one of our best aids in the diagnosis of tuberculosis in children, especially of the bronchial glands.

## Correspondence

Manila, P. I., June 16, 1916.

*To the Editor:* The February number of the *ILLINOIS MEDICAL JOURNAL* reached me but a short time ago and I was greatly interested in the article, “The Etiology and Prophylaxis of Cancer,” written by Dr. H. Byford, under whom I had the pleasure to study.

A few years ago—antebellum—I had an opportunity to do some work (in Germany) along the line of etiology of cancer. From what I was able to gather during these investigations it seems to me that the importance of associating the ovary and the testicle with cancer formation has been sadly overlooked. Among the many cancer cases which I had an opportunity to see there was hardly a case in which a history of an injury, a diseased, etc., testicle or ovary was lacking.

In the matter of geographic distribution of cancer it is an important fact that there are more cancer cases among those people where there exist more diseases and injuries, etc., of the reproductive than where these reproductive conditions do not exist. Likewise, the cities show more cases of cancer than does the country.

That the reproductive glands are responsible for cancerous growths is clearly shown by the existence of chorionepithelioma and cancers from parthenogenetic development.

What is true at one time or place may surely be true at another, and there is strong reason to believe it.

It is very possible that ovarian or testicular reproductive cells under certain conditions gain access to the blood circulation. When once in the circulation they are carried along until they are destroyed by the white blood cells, die or are arrested in their journey by some cause.

Arresting the journey of the gland cell or cells affords them an opportunity to come in contact with young cells in the area where circulation has been impaired.

This contact permits the gland cell to exert its peculiar stimulating influence upon the cell it has victimized and an increase in reproductive power follows.

The cancer growths are more or less of a tissue change of the tissue whose cells were victimized. The tissue first formed being nearly normal in

nature, it very soon (with or without the constant and persistent abnormal condition present in the tissue when the gland cell found lodgment), due to the inherent proliferative qualities of the gland cell, becomes overstimulated to a more than normal multiplication.

This forced cell multiplication at first gives off a cell of an almost normal nature but finally it deteriorates and degenerates into a rapidly multiplying cell of a modified or different nature, which is a true cancer cell.

The factors which determine a cancer localization are the virulence of the attacking gland cell, the susceptibility of the victimized cell and the destructive action which the white blood corpuscles are able to inflict upon the gland cell or new cell formation.

Very respectfully,

LT. O. HANSEN,

Baguio, P. I.

---

## Public Health

---

### INFANTILE PARALYSIS.

On account of the continued prevalence of infantile paralysis in New York the State Board of Health, while urging sanity and calmness, is rigidly scrutinizing every suspicious case occurring in Illinois and has taken several important steps to prevent the spread of the disease.

The rules and regulations of the Board relative to the reporting, placarding and quarantining cases of anterior poliomyelitis were amended on July 11 to conform with the latest information in regard to the disease and several special rules and regulations have been issued and put immediately into effect.

Under the provisions of these new rules, local health officers are required to notify the secretary of the Board at Springfield, by telephone or telegraph, of any case of actual or suspected poliomyelitis in his community and this report by wire must be followed forthwith by a letter giving all possible details of the case.

Railway companies entering the State have been instructed to report to the State Board of Health the arrival of all children from New York or from any other infected point. The railway companies are complying with this regulation and the service is being made more effective on account of the cooperation of the health commissioner of the City of New York, who furnishes information as to the destination of children leav-

ing that city. Upon receipt of notice that a child has arrived in any Illinois community from infected territory the Board promptly notifies the local health officer under whose jurisdiction the child has come.

Through a special order, issued on July 18, it becomes the duty of the parent, guardian, host or person having the custody of any child arriving in Illinois and who may have been in Greater New York within thirty days prior to his arrival, to report the presence of the child to the local health authorities. All children who have arrived in the state from New York within thirty days prior to July 18 must be reported to the local health officer within 24 hours and all children arriving after July 18 must be reported to the local health officer within six hours after their arrival. It then becomes the duty of the local health officer to examine or cause to be examined all children so reported and to keep them under observation until thirty days after their departure from New York. In case of any illness among these children, isolation is required until a definite diagnosis shall have been made.

The State Board of Health has also issued a warning, urging that better baby contests and other affairs bringing large numbers of children together shall be delayed until after all danger of spreading poliomyelitis is past.

Following its policy of widespread publicity as the best means of preventing communicable disease, the Board has recently issued a circular on infantile paralysis for general distribution. This circular bears date of July 20, and contains all of the information on the disease published up to that time, including the statements presented before the New York Academy of Medicine on July 13.

Referring to the hundred or more cases of poliomyelitis which have been reported in Illinois since the beginning of the New York epidemic, the circular says:

Definite knowledge regarding a communicable disease robs it of most of its terrors. If we add to our fear of the disease the elements of uncertainty and mystery, we have a combination which is singularly disturbing. If our knowledge of infantile paralysis were more complete and satisfactory, it is very doubtful if its presence would occasion the concern that it has within recent months. \* \* \* Many cases which are mild in character so closely simulate other more common and less serious conditions that their nature is not determined until the appearance of newspaper accounts centering attention upon epidemics in other



localities. As an after thought, physicians often recall doubtful cases which must have been those of poliomyelitis. For several years past, it has been observed in Illinois that, when epidemics have been reported in other states by the public press, numerous cases, previously unreported here, are brought to light. Not infrequently these cases have passed through the active stage and some of them occurred weeks or months before. It is more than likely that their nature would not have been determined at all were it not for the centering of public attention upon the subject through alarming epidemics elsewhere.

Thus it is seen that the reports of cases in various localities which follow the announcement of epidemics elsewhere are not necessarily indicative of impending catastrophe. Such reports merely indicate the extent to which the disease ordinarily prevails. They indicate that infantile paralysis is endemic in many communities.

\* \* \*

With the report of every case of actual or suspected poliomyelitis in the state, however, a rigid investigation has been carried out by the state epidemiologist or by one of the district health officers and, at the close of business in the offices of the State Board of Health on July 30 there had been reported and confirmed 113 cases of the disease distributed among 60 localities.

While cases have been reported from almost all sections of the state, three localities seem to be marked by an unusual prevalence of the disease. In that section within twenty-five miles of Cherry there have been seven cases; within twenty-five miles of Decatur there have been reported twelve cases, and within twenty-five miles of East St. Louis thirteen cases have come to the attention of the board. On account of these reports, parents are advised not to travel with children unnecessarily in these communities.

So far, the reports from the various counties have been as follows: Adams, 1; Alexander, 2; Bureau, 1; Champaign, 2; Christian, 1; Clinton, 2; Coles, 1; Cook, 38; DeKalb, 1; Edgar, 1; Effingham, 1; Ford, 1; Franklin, 2; Fulton, 1; Hardin, 1; Iroquois, 1; Jo Daviess, 1; Johnson, 1; Kankakee, 1; La Salle, 6; Lee, 2; Macon, 2; Macoupin, 4; Madison, 1; Moultrie, 3; Ogle, 3; Perry, 1; Piatt, 5; Putnam, 2; Saline, 1; St. Clair, 12; Stephenson, 2; Vermilion, 1; Whiteside, 2; Will, 1; Winnebago, 1, and Woodford, 2.

There have been six deaths in this group of cases, or a mortality of about 5 per cent. Of these cases, 76 per cent have occurred among children under five years of age and they have been almost equally divided between the two sexes.

## HEALTH SURVEY OF CUMBERLAND COUNTY.

Beginning on August 7, there will be a health survey of Cumberland county which promises to be one of the most complete sanitary and health investigations ever made of any community. This survey will be carried out jointly by the State Board of Health and the United States Public Health Service and it is stated that the federal government is prepared to expend \$6,000 on the project.

The Cumberland county study will be carried out very intensively to serve as a model for such investigations in the future and the citizens of that county will profit enormously by the fact that that particular section was chosen. Cumberland county was selected, first, because it is a rural county representative of the average Illinois county and of the average mid-western agricultural county. It is far enough south to offer many of the sanitary problems common to southern Illinois and far enough north to present many of the problems of the north section of the state. Cumberland county is also a relatively small county, making it possible to complete the survey in a relatively short period of time, and yet to cover the field very thoroughly.

This survey will be under the immediate direction of Dr. C. St. Clair Drake, executive officer of the State Board of Health, and of Dr. L. L. Lumsden, acting for the United States Public Health Service.

---

## THE ILLINOIS PUBLIC HEALTH AND WELFARE ASSOCIATION.

The Illinois Public Health and Welfare Association, an organization which has been contemplated for several years, was organized at Urbana on June 22, during the sessions of the Better Communities Conference.

The association will be closely identified with the State Board of Health and with all of the extra-governmental organizations of the state interested in any of the various phases of public health and civic welfare. Membership is open to all persons who may be interested. There is no initiation fee and the annual dues are \$2. Application for membership should be made to Paul Hansen, secretary-treasurer, at Springfield.

The first annual meeting will be held early in

1917 and it is expected to be the most representative public health meeting ever held in the state.

The officers for the first year, elected at Urbana, are the following:

Honorary president, Dr. John A. Robison, president of the Illinois State Board of Health, Chicago.

President, Dr. George Thomas Palmer, Springfield.

First vice-president, W. J. Allen, Waukegan.

Second vice-president, Dr. W. C. Clarke, Cairo.

Third vice-president, Dr. B. F. Reudiger, La Salle.

Secretary-treasurer, Paul Hansen, Springfield.

### X-RAY INTERPRETATION.

(Continued from page 142.)

We have a sort of a general rule. We admit that the x-ray is of extreme value in certain cases in elucidating for us certain cases of disease and protecting us against such things as malpractice and the like. But we have a rather curious rule that was suggested by a surgeon with respect particularly to the x-ray interpretation of abdominal diseases, and that is: Make a good physical examination and make up your mind what is the matter with the patient and if the x-ray agrees with what you think is the matter of the patient it is of great value; and if it does not agree with what you have already decided is the matter of the case, then the x-ray is of limited diagnostic worth to say the least.

We may say, in the main, that we find in gastrointestinal ailments that the x-ray has about as much value as has the differential blood count in cases of severe anemia. One smear of the blood may give you the entire diagnosis and on the other hand it may contribute no information. In the same way with the x-ray examination of cases, one examination or one series of examinations, may give a diagnosis where, by every other means, it is impossible to arrive at a diagnosis, in the majority of instances the evidence furnished by the x-ray is entirely corroborated.

Dr. O'Hara, in closing discussion: I second the motion to everything that has been said concerning it, and once more I wish to state that to take up the subject of the interpretations of the intra-abdominal conditions as shown by the x-ray would take hours instead of minutes. The great trouble is that we are having machines made far too simple and we are depending entirely too much upon the machines. It should be a part of the diagnosis and not all of it, and, as mentioned by Dr. Smithies, we are getting gradually away from the old habit of using our fingers, our eyes and our ears. Do not let the x-ray do too much of the work, just like the Gold Dust Twins, but the point I wish to press home is the fact that the interpretation of lights and shadows on these plates is not a matter of training of a few months. There is no Roentgenologist living who knows his business but will tell you that every plate

has a mine of information on it that he does not know anything about, and we are not trained to see it, but we are trying to learn.

### CURING THE INCURABLE.

ROBERT J. FOLONIE, LL. B.

A great activity is discernible in many states of the Union for revoking licenses of quacks and impostors in the medical profession. One of the effective means is to authorize revocation of license when promises are made to cure diseases generally recognized as incurable. This cannot fall gravely on a legitimate practitioner, for he does not warrant a cure in any event; he merely gives of his best and promises fidelity and skill, but not omniscience or omnipotence. In Colorado a statute authorizing revocation on the assurance of cure of a generally conceded incurable disease was held void as too uncertain and indefinite.\* Oklahoma\*\* holds to the contrary and with good sense construes its law to apply not to violations of ethics, but to those practices commonly deemed immoral and against conscience by reputable physicians and laymen alike.

In this view the question is whether considering the disease and the state it has reached it is at the time "incurable." If a physician promises a cure and accepts a fee, when there is a consensus of opinion that the diseased condition presents an incurable condition, he is taking money under false pretenses.

The extension of power for revocation of licenses by legislative action in Illinois makes this a pertinent subject of discussion and may present a subject for consideration by our lawmakers. I am impressed that it points a practical means of eliminating the charlatan from the field of medicine.

### DO YOU KNOW THAT

Intelligent motherhood conserves the nation's best crop?

Heavy eating like heavy drinking shortens life?

The registration of sickness is even more important than the registration of deaths?

The U. S. Public Health Service co-operates with state and local authorities to improve rural sanitation?

Many a severe cold ends in tuberculosis?

Sedentary habits shorten life?

Neglected adenoids and defective teeth in childhood menace adult health?

A low infant mortality rate indicates high community intelligence?

\*Greeb vs. State Board, 139 Pac. 1099.

\*\*Freeman vs. State Board, 154 Pac. 56.



## Auto Sparks and Kicks

### SLANDERING THE FORD.

A chiropodist received a call from a woman stopping at the hotel and on being shown her room, found her in a kimono. "Will you promise to trim my corns and keep your mouth shut?" asked the woman. He assured her he would, but began to protest when she started to remove her kimono. "Lady, lady," he implored, "you mustn't do anything like that." "Listen to me," said the woman heatedly, "I've ridden all the way from Colorado in a Ford and I guess I know where my corns are better than you do."—J. A. D., Bolivar, Mo.

### USE OF GRAPHITE.

Perhaps one of the best lubricants known for universal joints is graphite. This substance should be packed into the joint housing at certain intervals during the year and it will be found the joint will show less wear and operate more easily. If the housing is tight, one packing a year may do the work, if a little leaky, two or perhaps three fillings may be necessary. Good graphite as a lubricant for spring leaves has been found to be ideal. Race drivers pack the graphite between the leaves and then cord or tape the whole spring. When so taped or corded the graphite remains between the leaves for years.—*Motor Age*.

### INTERLINERS IN NEW TIRES.

Extensive experience of actual users go to show that interliners in any tire, new or old, are a positive advantage worth while. They render nail punctures fifty per cent less, decrease acute flexing of tire sidewalls, quite largely obviate "stone bruises," and give a better proportion between casing and inner tube than is offered by common sizes as now sold. As a result of a series of experiments I have found that an "over-size" casing with a good interliner well cemented in will give over twice the service that the common pneumatic tire of extended size will offer in use on common roads.—*Motor Age*.

### VARIATION OF POWER.

While the range of possible explosions of gas and air mixture is quite liberal, the best results

for different speeds can only be secured by having the mixture as lean as possible for results at low speed, with the increase of gasoline and air coincident as high speed of engine is advanced.

### HOW FAR WILL A CAR RUN?

That depends upon the personal care given to lubrication, prompt correction of occurring faults, and good driving. I know of one car that has run over two hundred thousand miles and is still running nicely. I know of another and more expensive machine that almost went to the scrap heap in one year of common driving.

### EASY CARBON REMOVAL.

If you have a primer that opens into the intake manifold you can keep your cylinders clean by occasionally squirting from an oiling can a small amount of chemical carbon remover into the priming device. It should be done when the cylinders are hot.

### TIRE CHAINS PREVENT WEAR.

Without tire chains the drive wheels will spin more or less on slippery places. The presence of sharp pieces of stone, cinders, or other like material in the road will then cause cuts and torn pieces that would not result if chains had been on the wheels.

### PAINT SPRAYER.

An ordinary gas blow torch may be used as a paint sprayer, the paint taking the place of the gas and being drawn up through the gas tube as shown. It is particularly suitable for putting on the lead coat.—*Autocar Sales and Service Co., Philadelphia*.

### HOT-AIR STOVE.

An exhaust pipe stove for the carburetor may be made out of a piece of an old stove pipe by cutting out a disk and bending it into an oval-shaped cone, which is strapped onto the exhaust pipe. The small end is drawn out on the horn of the anvil so that the flexible pipe may be attached.—*George W. Lownsley, Palmyra, Mo.*

### AGAINST SKIDDING.

A wise driver will straddle the ridge in the middle of a "greasy" road, or keep one wheel in a wheel rut, to prevent skidding.

## HEALTH NOTICE.

Public notice is hereby given all residents who have received orders from the Special Health Officer, that unless their respective places have been cleaned in accordance with instruction within the time limit given, their prosecutions will follow immediately.

I wish to further call to the attention of property owners and tenants that it is positively against the city ordinance to bury excretion inside the city limits. Parties parting from observing this ordinance will be prosecuted.

SAMUEL ROBB,

Special Health Officer.

—From the *Pana Palladium*.

# THE UNITED STATES PUBLIC HEALTH SERVICE ASKS DO YOU

Clean your teeth and then  
Expectorate in the washbowl?  
Omit lunch to reduce weight and then  
Overeat at dinner?  
Go to the country for health and then  
Sleep with your windows shut tight?  
Wonder why you have earache and then  
Blow your nose with your mouth shut?  
Think dog muzzling cruel and then  
Marvel at the spread of rabies?  
Carefully select your brand of liquor and then  
Feed your children unpasteurized milk?  
Repeat the Golden Rule and then  
Sneeze in somebody's face?  
Go camping for your health and then  
Place your toilet so that it drains into your water supply?

## Society Proceedings

### ADAMS COUNTY.

The Adams County Medical Society met in regular monthly session on Monday evening, July 10, at Hotel Newcomb.

Meeting called to order by Second Vice-President Dr. W. D. Stevenson.

Thirteen members and a guest, Dr. Frank E. Simpson of Chicago, were present.

Minutes of last meeting read and approved. The details of the first annual outing of the Illinois State Medical Society to be held at Starved Rock on July 12th and 13th were given by the secretary.

Bills for the month were read and on motion allowed. The speaker of the evening, Dr. Frank E. Simpson, then read a short and practical paper, illustrated with numerous lantern slides, on "Radium in Cancer." Since this was the first time radium had been discussed in the Adams County Medical Society, Dr. Simpson was given undivided attention. The doctor told us what radium is; how put up; why it is so costly; methods of application; length of time required for treatments, etc.

The lantern slides showed epitheliomas, naevi, rodent ulcers, sarcomas, etc., before the application of radium and after a course of treatment by the same. In most cases a complete recovery had been effected.

The paper was discussed and Dr. Simpson given a ringing vote of thanks.

The annual outing of the society, which is to be held in August, was referred to the entertainment committee with power.

On motion meeting adjourned to meet again on the second Monday in September.

ELIZABETH B. BALL, Secretary.

### COOK COUNTY

### CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

*Meeting of March 21, 1916—Continued.*

#### DISCUSSION OF DR. KENYON'S PAPER—CONTINUED.

Dr. Robertson does not believe that the present tonsillectomy is the ideal operation. With Dr. Kenyon, he believes that tonsil surgery is in its infancy. He does not believe there is such a thing as a healthy tonsil after the age of eight or ten. We should have the tonsil all out; we should have a mucous membrane that is absolutely clean, with epidermis all around, and lining mucous membrane, so that the pillars would be free from each other. He dislikes to see the two pillars coalesced. Those are the cases that produce the voice injury, if there is any such thing. It is just as important to operate correctly on a talker as on a singer.

Dr. J. Holinger wanted to speak of two points. The first concerned the injuries to the voice after tonsillectomy. Usually these people know of some person whose voice was injured. The speaker never had a chance to verify such a statement personally. Second, the formation of a scar depends entirely on the individual. In some patients, with a minimum of traumatism, you see an enormous scar; in others, after extensive traumatism, very little or no scar. You see that after any operation in the cavities of the body or on the surface. But the scar depends also upon the case itself. If you have a deep supratonsillar fossa, you must expect a pretty large traumatism, in order to close the supratonsillar fossa. If you do not close it, you will have a pouch afterwards, where all kinds of material can gather, causing trouble again.

Dr. Holinger still has to see the first case of injury to the singing voice after tonsillectomy; so far he only had hearsay evidence.

Dr. J. R. Fletcher said that some of the members thought the operation had not been evolved which would save all of this membrane, and he wished to say that it has, namely, dissection. He thought many of the members could show throats of patients operated on in which the scar was very slight indeed, and in which the action of the anterior and posterior pillars was absolutely perfect. By careful dissection the membrane is saved on the posterior pillar or palatopharyngeus muscle.

Regarding the anatomy of the palatopharyngeus muscle, it does not seem to be very widely recognized that there is a portion of this muscle which acts as a levator of the tonsil itself. That is the only muscle that is cut at all in doing a careful dissection. The palatopharyngeus can be so stripped from the capsule that you can see the aponeurosis that covers it.

As to the mucous membrane being deflected from the pharynx over the posterior portion of the palatopharyngeus muscle, then over the face of the tonsil, there is no such thing. The mucous membrane attaches itself to the posterior aspect of the tonsil, whether large, small or otherwise.

Regarding adhesions, the speaker does not think they are necessary, if a strict, rigid technic is followed. He believes the tonsillar fossa can be preserved, and the function of the muscles also preserved.

Dr. Kenyon, in closing the discussion, said that the function of the faucial muscles is probably dependent altogether more upon the capsule than upon the lymphatic tissue.

Permanent impairment of the speaking voice does occur from tonsillectomies. Some of the physicians in the room seemed to doubt it. Such impairment may turn out to be more frequent than we presume.

Again, it seemed to him that there was no reason why we should have an exclusively radical attitude toward the tonsil. What we need is a conservative attitude toward the tonsil.



What we need is a conservative attitude as well as a radical attitude, and it is for us to work out a conservative attitude for conservative cases.

The question as to the singing voice opened up such a large field that he would not then, at so late an hour, touch on the subject at all.

### MADISON COUNTY.

#### *Our July Meeting.*

The State of Illinois has complimented our county by locating within its borders the new state hospital for the insane. This hospital is located one mile east of the city limits of the City of Alton, and is to be the very latest word in state hospital construction. Over two million dollars are to be spent in its construction alone and we are assured that when completed it will be strictly first class in every way and will not be exceeded in its appointments by any hospital in the nation.

To give all of our members an opportunity to inspect this plant now under construction the State Board of Administration has invited our society to hold its July meeting at the hospital, so that all of our members may get in touch with the latest effort of our state to take care of the wards of the state in a humane and scientific manner.

A good program has been prepared, speakers from the Board of Administration and others will be present to assist in making this session one of interest and profit.

Hon. Fred J. Kern, President of the State Board of Administration, will give an address on "The Scope and Purpose of the State Institutions."

Dr. Frank P. Norbury of Jacksonville, former Superintendent of the Kankakee State Hospital and later alienist of the State Board of Administration, will read a paper on "Individualization in the Treatment of Nervous and Mental Disorder."

The ladies are invited and every member owes it to himself and his better half to take a half holiday and enjoy the afternoon under the shade trees of the spacious lawn of our newest state hospital.

#### *Never Too Hot.*

The Madison County Medical Society holds twelve monthly meetings each year. It meets, rain or shine, on the afternoon of the first Friday in each month with a very fair percentage of our members in attendance at each meeting. We never take a vacation and it is a matter of fact that our summer meetings are as well attended and as full of interest as any that are held.

Arrangements are made to hold the June, July and August meetings out of doors, under the shade of green trees, and under these circumstances we have never been uncomfortable. The ladies are invited to these al fresco meetings and we believe that we have a larger attendance owing to this fact. Many of our members think enough of their wives to invite them to join us in attending to our summer duties and if the roads are not too muddy and the price of gasoline not too high it is a pleasure to take a cross country run and allow the doctor's wife a half holiday in company

with her husband.—*From The Madison County Doctor.*

### MORGAN COUNTY MEDICAL SOCIETY.

Society met July 13 at 8:00 p. m., at library in Jacksonville. There were sixteen members present. Dr. T. O. Hardesty, president, presided.

Motion made at previous meeting to make assessment of \$2 each member to pay for JOURNALS for the library and their distribution among members was voted on and carried. Assessment of \$2.00 each member levied as per motion.

Paper of the evening read by Dr. W. Reid, "Contagious Diseases of Childhood." Discussion led by Dr. E. S. Canatsey and Dr. G. R. Bradley. The paper and discussion were very interesting and were discussed by nine other members.

Next regular meeting announced for August 10. "Chorea," by Dr. F. P. Norbury and Dr. Edward Bowe.

Cass and Morgan County joint medical picnic announced for August. Date not given. This picnic to be held at the farm of Dr. Carl E. Black.

Meeting adjourned.

THOS. G. McLIN, Secretary.

### PIKE COUNTY.

The Pike County Medical Society met in Pleasant Hill, Ill., July 27, 1916. This proved to be one of the most successful meetings that the society has had for a long time. There was a very large and enthusiastic attendance and the physicians of this little city had left no stone unturned to contribute to the comfort and convenience of their guests. Notwithstanding the temperature of 100 degrees in the shade, long before noon a string of motor cars could be seen on the main street which kept increasing as the day advanced. Many came from twenty and twenty-five miles away. Members of the Pike County Medical Society had been invited and there was quite a representation from this live society.

Tables were placed under the beautiful maple trees of a large private residence and at 12:30 dinner was served, consisting of delicious fish, fried chicken and all the delicacies of the season. After dinner many of the visitors took a stroll to see the beautiful scenery for which Pike County is famous. About 2 p. m. all assembled in the basement of the Christian Church and the regular program was given, President R. P. Wells, M. D., calling the meeting to order.

Dr. George E. Iterman, formerly of Griggsville, was elected a member of the society. The application of Dr. Wise, of Griggsville, was referred to the board of censors.

The matter of fees to be paid by the county in cases of contagious diseases was again taken up and discussed by Drs. Thurman, Smith, Kay, Peacock and others, and the society decided not to accept the scale of prices as offered by the board of supervisors.

The secretary reported that he had sent five names to the Secretary of the State Society from which one

would be chosen to act with the president and secretary of the local society to form the committee of three to act with the State committee in reference to the Medical Reserve of the U. S. Army.

Dr. R. P. Smith was elected as representative of Pike County to the committee on Medical Legislation.

Dr. Guy Hetherlin, of Louisiana, read an excellent paper on "Blood Pressure," which was well presented and very instructive.

Dr. Mary Henry Aitow, of Summer Hill, reported a remarkable case of disease of the supra-renal capsule.

Dr. Metta V. Collins, of Barry, followed with a short discussion of typhoid fever and the report of an unusual case. The case was discussed by Drs. Hetherlin, Kuntz, Lacy, Smith, Wells, Beaver, Goodman and others. These papers show that our lady doctors are good practitioners.

Dr. Cape, of Maplewood, gave a short address, on invitation of the president, which was well received by the society.

The society endorsed Mr. Ed. Strubinger as candidate for representative to succeed himself.

Dr. Beaver invited the society to Barry for the next meeting and at 5 p. m. the society adjourned.

#### TAZEWELL COUNTY.

The July meeting of the Tazewell County Medical Society was called to order at 2:00 p. m., July 12, by President Yoder, in the K. P. Hall at Mackinaw.

The meeting was designated as "Case Report Meeting," each one being requested to present a short case report. The reports were more brief than the discussions which followed, and as a novelty in programs, the meeting was voted a success by those present.

A committee composed of Drs. Kelchner, Bailey and Gale was appointed to serve through the coming primaries and elections. This committee is expected to act in conjunction with other committees on "Political Activity" who may be appointed by other societies in this district.

F. C. GALE, Secretary.

#### Personals

Dr. G. H. Stacy, Jacksonville, has removed his office to Ayers Bank building.

Dr. E. H. Abbott, of Elgin, and family have been taking an outing in Michigan by automobile.

Dr. John G. O'Malley has returned after a year of hospital service in the Ypres district of France.

Dr. Robert R. Smith, Mount Vernon, has been appointed superintendent of the Alton State Hospital.

Dr. John H. Noonan has been appointed assistant surgeon of the Park Hospital, Livingston, Mont.

Dr. Henry A. Winter, Saybrook, celebrated his fiftieth anniversary of his entrance into practice June 23.

Dr. Arthur Dean Bevan was given honorary degree of Master of Arts by Yale University, June 21.

Dr. Cora I. Kipp, Pontiac, has recently returned after five years' service in Bareilly and Brindaban, India.

Dr. Morris Lewison has succeeded the late Dr. Theodore B. Sachs on the advisory board of the Jewish Consumptive Relief Society.

Dr. Kellogg Speed is in charge of the Twenty-Third General Hospital for the British Expeditionary forces, at Etaples, France.

Dr. Charles Moore, who was operated on for gastric ulcer, July 4, at St. Vincent's Hospital, Taylorville, is making a good recovery.

Dr. William Arthur Clark, director of the American Red Cross unit at La Panne, Belgium, for several months, has returned to Chicago.

At the annual convocation of the University of Wisconsin, June 21, the degree of Doctor of Science was conferred on Dr. Ludvig Hektoen.

Dr. Edward A. Morris, Springfield, has been commissioned first lieutenant, M. C., Ill. N. G., and assigned to duty with the Fourth infantry.

Dr. Daniel N. Eisendrath, Chicago, delivered an address on the "Surgery of the Kidney" before the Kalamazoo Academy of Medicine, June 26.

Lieut. Ray H. Davies, assigned Illinois Field Hospital No. 2, while entraining for the border at Springfield with his command, fractured two ribs.

Dr. Ethan A. Gray has been appointed a member of the committee on business management of the Chicago Municipal Tuberculosis Sanatorium.

At the fifty-eighth annual commencement of Northwestern University, the honorary degree of Master of Science was conferred on Dr. Edmund J. Doering.

Dr. Hugh Neil MacKechie has been appointed head of the department of surgery of Loyola University Medical School, vice Dr. John D. Robertson, resigned.



Dr. Frederick C. Vogt, Gillespie, who was operated on at the Litchfield Hospital, July 12, is reported to be making satisfactory progress toward recovery.

Dr. George G. Davis has returned after a considerable period spent in English war hospitals, where he achieved the rank of lieutenant-colonel in the British army.

Dr. Ben Reitman, after serving sixty days in the New York jail for advocating "birth control," has returned to Chicago with the avowed intention of starting a similar campaign.

Dr. A. M. Austin of Mendon has removed to Quincy and formed a partnership with Dr. Dan F. Stine, who has been appointed professor of medicine in the University of Missouri.

Dr. George E. Lyon, after taking a postgraduate course in New York, has removed from Obed to Decatur, Powers building, where he will practice pediatrics and orthopedic surgery.

Dr. Arthur Lederer has resigned as chief chemist and bacteriologist of the sanitary district of Chicago, to take up the course for health officers at Harvard-Technology, Boston.

Dr. Willis O. Nance, chairman of the Committee on Health of the city council of Chicago, is said to have turned down an offer to run him as a candidate for coroner of Cook county.

Dr. John G. Young, of Pontiac, is spending a year in postgraduate study at the New York Polyclinic Hospital and College in preparation for exclusive surgical practice on return to Pontiac.

Dr. C. L. Stealy, a nephew of Dr. J. H. Stealy and recent graduate of the University of Michigan, Department of Medicine, has associated himself with Drs. Stealy, Karcher and Harlan, at Freeport.

Dr. Haim I. Davis, formerly superintendent of the Cook County Psychopathic Hospital, has been appointed a member of the attending staff of the Michael Reese Hospital in the department of neurology.

Capt. Daniel W. Rogers has been appointed major; Lieut. Eugene G. Clancy has been promoted to captain, and Dr. Thomas M. Egan has been appointed first lieutenant, medical corps, all being assigned to the Seventh infantry.

The first five names on the eligible list of the city civil service commission for attending phy-

sician in the Municipal Tuberculosis Sanatorium are Drs. William D. Napheys, Arrie Bamberger, Harry G. Hardt, Ellis B. Freilich and Philip J. Murphy.

Dr. Philip S. Chancellor has returned from Santa Barbara to join Field Hospital No. 1, Illinois National Guard, in Springfield. Dr. Chancellor recently returned from service with the Chicago unit in France, where he was mentioned in dispatches on account of efficient service.

Dr. J. H. Stealy, on account of poor health, has discontinued the Freeport General Hospital, which he and Mrs. Stealy have been successfully running the past three years. The eighteen nurses will continue their training at the West Side Hospital, Chicago. Dr. Stealy was in St. Joseph's Hospital, Ann Arbor, and will spend some time in Detroit recuperating and regaining strength before resuming practice.

Dr. A. J. Markley, Belvidere, treasurer of the Illinois State Medical Society, who has practiced medicine in Boone county thirty-five years, is an active candidate for the republican nomination for the general assembly. Dr. Markley has the endorsement of the Republican County Central Committee of Boone county. The physicians of the district should give Dr. Markley all possible assistance both for the nomination and election.

---

## News Notes

---

—Northwestern University will provide daily consultation and free treatment for its students. Dr. Virgil E. Dudman has been appointed health officer.

—The International Health Commission of the Rockefeller Foundation announces the change of its name to International Health Board of the Rockefeller Foundation.

—The Illinois State Board of Health is said to have ruled, June 26, that all medical students who join the Illinois National Guard or Naval Reserve will be allowed full credit for the year's work.

—Miss Ruth Lighthall filed suit against the Chicago Hospital College of Medicine for damages, tuition and pay for a diploma which the college refused to issue, claiming that she failed in her examinations.

—The first annual outing of members of the Illinois State Medical Society at Starved Rock, July 12 and 13, was a success in attendance and program, in spite of very hot weather. It is possible that a meeting in the fall or spring would secure more favorable weather conditions.

—The Peoria *Journal* Milk and Ice Campaign made possible the opening on July 12 of a Baby Clinic and Dispensary at the Douglas School, Peoria. The clinic will be open once each week for the examination of babies of the city, and will be under the case of Dr. Fred M. F. Meixner.

—Trouble is brewing for the College of Chiropractic of Davenport, Iowa, over promises to deliver faked diplomas. One Fred D. Farr, of Chicago, is said to be the ringleader in a scheme which is now under investigation by the federal authorities. Anyone who would pay real money for such a diploma ought to be stung, anyhow.

—The Physicians' Club of Chicago, at its annual meeting, June 29, at the Hotel Sherman, elected Dr. William D. Napheys as secretary. The directors elected for two years are Drs. Arthur M. Corwin, Henry W. Cheney and John Weatherston. The holdover directors are Drs. Joseph Zeisler, Charles P. Caldwell and Henry T. Byford.

—At the annual meeting of the Alumni Association of Northwestern University Medical School, held in Chicago, June 10, Dr. James H. Stowell, Chicago, was elected president, and Dr. Henry B. Hemenway, Evanston, vice-president. The association recommended that a medical alumni advisory board be established to investigate conditions in the medical school.

—Drs. Bert I. Wyatt and A. M. Siegel, who were examining children arriving in Chicago by train from New York for symptoms of infantile paralysis, were accused of charging \$1 for treating a child and were suspended from service with the Health Department. Later the father of the child made affidavit from Valley Falls, N. D., that the money was paid for treatment to a physician in Warsaw, Ind. The Civil Service Commission thereupon reinstated the physicians and exonerated them.

—The Rockford Municipal Tuberculosis Sanatorium was formally opened June 10. Addresses were delivered by W. H. Smith, Rockford, on

"The Relation of the Doctor to Community in the Prevention of Tuberculosis," and by Dr. George W. Webster, Chicago, on "The Rights and Duties of the Municipality in the Control of Tuberculosis." The presentation speech was by Dr. Daniel Lichty, its president, and Mayor Bennett accepted the institution on behalf of the city.

—A memorial service to the late Dr. Frank W. Reilly, for many years assistant commissioner of health of Chicago, and at one time secretary of the Illinois State Board of Health, was held June 21, when the Frank W. Reilly Public School at School street and Lawndale avenue was dedicated. The principal addresses were delivered by Superintendent of Schools John D. Shoop, President Jacob M. Loeb of the Board of Education, Dr. Arthur R. Reynolds, former health commissioner, and Dr. Alfred C. Cotton, who paid high tribute to the memory of Dr. Reilly.

—At the examination recently held in various cities throughout the United States the following named medical men successfully passed the examination for appointment as assistant surgeon in the Medical Reserve Corps, with a view to subsequent examination for appointment in the Medical Corps of the navy: James A. Halpin, M. D., Washington, D. C.; William D. Heaton, M. D., Wahoo, Neb.; Aubrey M. Larsen, M. D., Salt Lake City, Utah; Lincoln Humphreys, M. D., Argenta, Ark.; Theo. Edward Cox, M. D., Cleveland, Ohio; Arthur W. Hoaglund, M. D., Minneapolis, Minn.; Carroll H. Francis, M. D., Camden, N. J.; Harold L. Jensen, M. D., San Francisco, Cal.

—The serious epidemic of infantile paralysis in New York City last month numbered 728 cases and 229 deaths. Quarantines were established against children from New York by Ontario, New Jersey and many eastern cities. The Chicago Department of Health secured an appropriation of \$5,000 for preventive measures and physicians from the staff of field health officers were employed to meet incoming trains from New York and examine all children for evidence of disease and to keep them under surveillance. Up to the 22nd inst. . . cases have developed in Chicago and . . deaths. Thorough investigation of all suspected cases and immediate removal to the hospital are enforced.

—Mrs. F. S. Coolidge has donated to the In-



stitute of Medicine of Chicago the house 2636 Prairie avenue, in memory of her husband, Dr. F. S. Coolidge. The gift gives to the institute a permanent home which will enable it to begin the formation in Chicago of a strong medical institution, analogous to the College of Physicians in Philadelphia, the Academy of Medicine in New York, and other similar institutions. Physicians, medical teachers and investigators who have common professional and scientific interests and ideals will meet here, and thereby the progress of medicine in this center will be advanced. It is further anticipated that this house will not only be used for scientific meetings, but will also offer facilities for the adequate preservation of books and other objects of medical, historical and scientific interest.

—The personnel of the Chicago Base Hospital Unit No. 1 was announced, July 10. It will be under the direction of Dr. Frederic A. Besley. The surgical division will consist of Drs. Joseph F. Jaros, Thomas J. O'Malley, V. David Greer, Oak Park; Payson L. Nusbaum, Walter L. Stranberg, Joseph J. Lebowitz, Hammond, Ind.; A. M. Krost, Hyrum Y. Richards, and Burt H. Hardinger, Gays. The medical division will consist of Drs. Milton Mandel, assistant director; Martin R. Chase, Leo G. Dwan, Hugo W. Traub, David E. Markson, Frank Whitmore and William P. Honan. The personnel of the laboratory division is as follows: Drs. Alexander A. Day, assistant director; James P. Simonds, pathologist; M. L. Blumenthal, P. Ph., roentgenologist, and George E. Meyer, D. D. S., and Charles W. Freeman, D. D. S., are the oral surgeons of the unit.

—A conference on mental defectives was held in the County Court building, July 24, on invitation of Judge Thomas F. Scully. The medical members of this conference were: Drs. Anna Dwyer, Morals court; William Healy, Juvenile court; William J. Hickson, psychopathic expert of the Municipal court; Charles E. Sceleth, House of Correction; Anna E. Isham, Psychopathic Hospital; Henry J. Gahagan, superintendent of the State Hospital at Elgin; Ralph A. Goodner, superintendent of the State Hospital at Kankakee; Adam Szwajkart, superintendent of the Psychopathic Hospital; Mr. Clayton F. Smith, warden of the County Hospital; John Dill Robertson, city health commissioner; George Leininger, superintendent of the Chicago State Hos-

pital; James Whitney Hall of the county's staff of alienists; Edgar M. Reading, Loyola University; Herman C. Stevens, University of Chicago; Dennis P. Russell, Psychopathic Hospital, and Harold N. Moyer, city psychopathic ward.

—The August number of *The Modern Hospital*, St. Louis and Chicago, is devoted to a symposium on welfare work among the industrial corporations of the country. There are editorials by those competent to write on this important subject, a great number of papers written by welfare directors in some of the most important industrial corporations, and an immense amount of statistics and figures and facts showing the huge volume of work that the corporations are doing to protect their employes against sickness, accidents and discontent. The journal contains many illustrations of first aid stations, emergency hospitals, and welfare departments of industrial plants, and many facts that should be of great help to those interested. Among the topics discussed are those of first aid, industrial nursing, lunches and diets for industrial employes, safety devices in factories, and athletic and social clubs for employes. The editors frankly state that they have been unable to obtain figures as to cost of welfare work in the industries, but a number of writers attempt to make deductions and draw conclusions from their experiences of the past few years.

---

## Marriages

---

Columbus Huffaker, M. D., to Miss Faye Scott, both of Chrisman, Ill.

FRED WADE JONES, M. D., Alton, to Miss Mary Krome of Edwardsville, June 10.

WASHINGTON WEST, JR., M. D., to Miss Agnes Mace, both of Belleville, Ill., June 16.

BURT HORACE HARDINGER, M. D., Gays, Ill., to Miss Elsie Warder of Chicago, recently.

LAWRENCE HEMPSON MAYERS, M. D., to Miss Antoinette Redfield Hale, in Chicago, July 1.

E. S. MELOY, M. D., Highland, to Miss Winifred Nicholas of Sheboygan Falls, Wis., June 29.

ERNEST NELSON GREENMAN, M. D., to Miss Portia C. Snow, both of Kankakee, Ill., June 15.

MILTON WESTON HALL, M. D., Evanston, Ill., to Miss Florence Patersen of Chicago, recently.

THOMAS ARTHUR PETTEPIECE, M. D., Freeport, Ill., to Miss Wilma Pierce of Chicago, June 23.

CHARLES EDWARD PETERS, M. D., National Soldiers' Home, Danville, Ill., to Miss Frances Pitt Stack of National Military Home, Marion, Ind., July 3.

M. ADELAIDE GASTON, M. D., Cerro Gordo, to Walter Malcolm Macleod of Vega Baga, Porto Rico, at Cerro Gordo, July 19.

## Obituary

Dr. Alfred Cleveland Cotton, A. M., M. D., of Chicago. Born at Griggsville, Illinois; died at Chicago, July 12, 1916, aged 69 years. Enlisted at the age of 16 as drummer in Company F, 137th Ill. Vol. Inf.; wounded and captured; confined eight months in Southern prison; honorably discharged from service at the close of the war. Graduated from the State Normal University at Bloomington. For seven years principal of grammar and high schools; 1873 deputy county superintendent of the Iroquois County schools. Studied medicine under Dr. J. R. Stoner of Griggsville as preceptor. Graduated from Rush Medical College, class of 1878, as valedictorian and president of his class. Degree of A. M. from Illinois College, 1887. Practiced medicine at Turner, Du Page county, Ill. Local surgeon for the Northwestern railroad. Twice coroner of Du Page county and local health officer. Appointed lecturer on *Materia Medica* and *Therapeutics* of Rush Medical College, 1880; later adjunct professor of same and attending obstetrician of Presbyterian Hospital; 1882 attending Pediatrician to Central Free Dispensary and assistant to the clinical chair of Diseases of Children; 1883-1884, a year devoted to post-graduate work in Pediatrics in New York, Philadelphia and Baltimore; 1885 elected professor of Diseases of Children in Rush Medical College and devoted his whole practice to this specialty thereafter. For over thirty years active in management of Children's department of Central Free Dispensary as attending and consulting physician, and in like capacity served for many years on the staff of Presbyterian Hospital. Superintendent of Jackson Park Sanitarium for sick children; staff lecturer for many years to Illinois Training

School for Nurses and the Presbyterian Hospital Training School for Nurses; consulting and attending staff of Cook County Hospital; city physician, 1891 to 1893 and 1895 to 1897; member of Chicago Board of Health; medical superintendent of the Police Department and House of Correction. Was in charge of Chicago Isolation Hospital and Infectious Disease wards of Cook County Hospital; examining surgeon on the U. S. Pension Board and for years chosen surgeon of the Grand Army of the Republic and Veteran Union League. Member of Chicago Medical, Illinois Medical, A. M. A., American Pediatrics, American Medical Examiners' and many other societies. Twice chosen chairman of Pediatric section of the A. M. A., 1894 and 1895. Twice president of Chicago Pediatric Society. President of Chicago Medical Society, 1908-1909; president of Illinois State Medical Society, 1911-1912; president of American Teachers' Association for diseases of children; president of Chicago Medical Examiners' Association; president Chicago Physicians' Club; alumni chapter of Phi Rho Sigma and of the grand chapter of Phi Rho Sigma; member of Gamma chapter; repeatedly councillor of Chicago Medical Society; delegate to Illinois Medical Society, the American Medical Association and the International Medical Congress at Moscow 1897, Buda Pest 1907, and London 1913. For thirty years medical referee for Chicago and chief examiner in Chicago of Prudential Life Insurance Company. Surgeon to artillery battalion of the Illinois National Guard; commander of American Post, No. 708, Grand Army of the Republic. Author of three text books, "Lessons on the Anatomy, Physiology and Hygiene of Infancy and Childhood," "The Care of the Infant," and "Medical Diseases of the Developing Period," and scores of contributions to pediatric literature. One of the few Americans honored with membership in *Société Française d'Hygiène* of Paris. In Masonry he was a member of Garfield Lodge, Chicago; Doris Chapter, West Chicago; K. T. and Bethel Commandery, No. 36, Elgin, Ill. Member of Warren Avenue Congregational Church and lifelong Republican.

Two children survive, Mildred C. and John R., who is in his second year at Amherst. He plans to enter Rush after completing his work at college.



## Deaths

ANDREW NICHOLAS SPRAFKA, M. D., Chicago; Northwestern University Medical School, 1914; aged 26; died in Chicago June 22, from appendicitis.

UPTON E. TRAER, M. D., Evanston, Ill.; New York Hygieo-Therapeutic College, New York City, 1873; aged 81; died in the Evanston Hospital, June 12, from the effects of a fracture of the hip.

LYNN W. HENDERSHOTT, M. D., Mill Shoals, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1881; aged 66; for more than forty years a practitioner of Illinois; died at his home recently.

JOHN PHILIP VAN VOORHIS, M. D.; Fairdale, Ill.; Eclectic Medical Institute, Cincinnati, 1856; aged 82; for more than fifty years a practitioner of Fairdale; died at his home July 4, from senile debility.

JOHN H. ALPERS, Rantoul, Ill. (license, years of practice, Illinois, 1878); aged 80; for nearly forty years a practitioner of Rantoul; died at the home of his daughter in that place, June 18, from cerebral hemorrhage.

OSCAR J. GWYNN, M. D., Granite City, Ill.; George Washington University, Washington, D. C., 1896; aged 48; a Fellow of the American Medical Association; died in St. Luke's Hospital, St. Louis, June 16, from peritonitis following acute gastritis.

JOHN Y. BENNETT, M. D., Leroy, Ill.; Physio-Medical College of Indiana, Indianapolis, 1896; Illinois Medical College, Chicago, 1898; aged 43; a Fellow of the American Medical Association; died at his home, about July 1, from pneumonia.

LEVANT EMERY HACKLEY, M. D., Oak Park, Ill.; College of Physicians and Surgeons in the City of New York, 1850; aged 89; for many years a druggist of Minnesota, Chicago, and Wisconsin; died at his home, June 13, from senile debility.

WILLIAM ALVARS FRANKLIN, M. D., Chicago; University of Michigan, Homeopathic Medical School, Ann Arbor, 1878; aged 67; formerly professor of pediatrics in Hering Medical College, Chicago; died at his home, July 6, from acute gastritis and pleurisy.

ROBERT WESLEY BAKER, M. D., Peoria, Ill.; Rush Medical College, 1879; aged 67; a Fellow of the American Medical Association; one of the most prominent practitioners of Peoria; for several years a member of the local board of education; died at his home, July 17, from heart disease.

JOHN ELLIS GILMAN, M. D., Chicago; Hahnemann Medical College, Chicago, 1871; aged 74; emeritus professor of materia medica and therapeutics in his alma mater; one of the oldest and most esteemed homeopathic practitioners of Chicago; died in St. Luke's Hospital, June 21, from cerebral hemorrhage.

WILLIAM ABRAHAM HASKELL, M. D., Alton, Ill.; Harvard Medical School, 1869; aged 71; a Fellow of

the American Medical Association; one of the most prominent practitioners of western Illinois; a charter member of the Madison County Medical Society; a member of the Illinois State Board of Health and president of the board from 1887 to 1892; died at his home, July 13.

OSCAR PAUL CHESTER, M. D., Chicago; Northwestern University Medical School, 1896; aged 45; a Fellow of the American Medical Association; formerly attending physician to Mercy Hospital, Chicago, and instructor in physical diagnosis in his alma mater; who had been obliged to relinquish his practice two years ago on account of cerebral hemorrhage; died at the home of his mother in Champaign, Ill., June 24.

WILLIAM EVANS CASSELBERRY, M. D., Chicago; University of Pennsylvania, Philadelphia, 1879; aged 57; a Fellow of the American Medical Association; formerly president of the American Laryngological Association and Chicago Laryngological Association; a member of the National Association for the Study and Prevention of Tuberculosis, American Climatological Association and Physicians' Club of Chicago and a Fellow of the American College of Surgeons; one of the most prominent laryngologists of the United States; professor of therapeutics in Northwestern University Medical School from 1883 to 1894 and professor and emeritus professor of laryngology and rhinology since 1894; attending laryngologist and rhinologist to St. Luke's Hospital died at his summer home in Lake Forest, July 11, from angina pectoris.

## NEW AND NONOFFICIAL REMEDIES.

During July the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

E. R. Squibb & Sons:

Solution Hypophysis—Squibb.

Roberts' Occult Blood Test—Squibb.

Ampules Mercuric Salicylate—Squibb, 0.065 gm.

Ampules Quinine Dihydrochloride—Squibb, 1 gm.

Ampules Quinine Dihydrochloride—Squibb, 0.5 gm.

Ampules Quinine Dihydrochloride—Squibb, 0.25 gm.

Ampules Quinine and Urea Hydrochloride—Squibb, 1 gm.

Ampules Quinine and Urea Hydrochloride—Squibb, 0.5 gm.

Ampules Quinine and Urea Hydrochloride—Squibb, 0.25 gm.

Ampules Quinine and Urea Hydrochloride—Squibb, 1 per cent.

Ampules Sodium Cacodylate—Squibb, 0.13 gm.

Ampules Sodium Cacodylate—Squibb, 0.05 gm.

Standard Radium Solution for Drinking (1 microgram Ra.)—Each bottle (60 c.c.) contains radium chloride equivalent to 1 microgram Ra and 1.3 mg. of barium chloride. The solution obtained in one bottle is taken after each meal. The Radium Chemical Co., Pittsburgh, Pa. (Jour. A. M. A., July 1, 1916, p. 35).

Radium Bromide, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the

basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Carbonate, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Chloride, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Sulphate, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo. (Jour. A. M. A., July 8, 1916, p. 121).

Vitalait Starter—A culture in vials of the *Bacillus bulgaricus* and the *Streptococcus acidilactici* in symbiosis. It is intended for the home preparation of fermented milk. Sufficient to prepare from 1 to 3 quarts of fermented milk is sent on request of the physician to the patient twice a week. The Vitalait Laboratory, Inc., Newton Centre, Mass. (Jour. A. M. A., July 15, 1916, p. 203).

Enteric Coated Glycotauro Tablets.—Each tablet contains glycotauro, 2 grains, and is coated with salol. Hynson, Westcott & Co., Baltimore, Md.

Petroagar.—Each 100 gm. contains petrolatum, 72 gm.; agar, 22 gm., with powdered licorice, cocoa and oil of anise sufficient to flavor. H. C. Merker Co., Chicago, Ill.

Petrobran.—Each 100 gm. contains petrolatum, 74 gm.; bran, 22 gm., with powdered licorice and "oil of pineapple" (ethyl butyrate) sufficient to flavor. H. C. Merker Co., Chicago, Ill. (Jour. A. M. A., June 10, 1916, p. 1857.)

During June the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New, and Non-official Remedies:

Abbott Laboratories—Galactenzyme Tablets, Galactenzyme Bouillon.

Schlesinger Radium Co.—Radium Bromide, Radium Carbonate, Radium Chloride, and Radium Sulphate.

Vitalait Laboratories—Vitalait Starter.

## Book Notices

A TEXT-BOOK OF PATHOLOGY. By William G. MacCallum, M. D., Professor of Pathology in the College of Physicians and Surgeons, Columbia University, New York City. Octavo volume of 1085 pages with 575 original illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$7.50 net.

A pathology in which a new method of subdivision is used, namely, that based upon the etiology or causal factor of disease rather than the usual way of anatomical distribution. The author has succeeded in the use of this method, except in the case of tumors, whose causal factor is yet unknown. The entire work is well presented, easy to read and not filled with too much extraneous or doubtful material. The illus-

trations are good and numerous enough to clearly elucidate the various topics.

As it is evidently a book especially written for students, numerous subjects, such as the relation of heredity to disease, the biology of bacteria, malformations and many diseases of the nervous system have been omitted, as these subjects can be better presented in special works on the subject. The disturbances of function and of chemical interchange in the course of disease are not neglected. References are made principally to papers that are of especial value to the student.

INFECTION OF THE HAND. A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand and Forearm. By Allen B. Kanavel, M. D., Assistant Professor of Surgery, Northwestern University Medical School; attending surgeon, Wesley and Cook County Hospitals, Chicago. New (3d) edition, thoroughly revised. Octavo, 498 pages, with 161 illustrations. Cloth, \$3.75 net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

The importance of this work to all surgeons is demonstrated by the fact that it has passed so quickly through two large editions. The third edition has given the author an opportunity to enhance the value of his monograph by a thorough revision and by the addition of two chapters: the first upon the "Relation of Acute Infective Processes to Industrial Pursuits," and the second upon "Plastic Procedures Instituted for the Correction of Deformities." The entire work has been thoroughly revised and enlarged, and a number of new illustrations have been added.

The subject of this book is of the greatest importance to every surgeon and general practitioner, and many deformed hands might be prevented if every practitioner were familiar with the importance of this subject and with the complete manner in which this book handles it. The chapters are so grouped that the practitioner can find the part dealing with his particular case quickly. Any physician who carefully follows Kanavel will have his conception of the subject greatly clarified. The various chapters on treatment of different conditions are very full, the technique is well described, and the after-treatment is carefully given. The illustrations are remarkably clear and instructive.

MANUAL OF PRACTICAL GYNECOLOGY. By Dr. M. J. Seifert, Chicago. Chicago Medical Book Co., Chicago. Price, \$3.00.

This book is written on the experience gained as a teacher in the various medical schools and training schools for nurses. It is brief, yet presents the subject plainly with many practical ideas.

TOBACCO HABIT EASILY CONQUERED. How to do it agreeably and without drugs. With appendix, Tobacco the Destroyer, by M. MacLevy. Albro Society, Inc., New York.

This book is gotten up with the intent of curing the tobacco habit without use of drugs. Whether it would be as easy for the tobacco victim as the author attempts to imply we are not in position to say.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXX

CHICAGO, ILL., SEPTEMBER, 1916

No. 3

## Original Articles

### IMPROVED TECHNIQUE IN MY NEW SUBMUCOUS OPERATION.\*

OLIVER TYDINGS, M. D.,  
CHICAGO.

While it has been over six years since the first operation was done, and only a little over a year since it was presented to the public—except to my classes at the Chicago Eye, Ear, Nose and Throat College where I have endeavored to give it first place in all submucous work—yet the kindly criticism of my article by those who have tried it has spurred me on to greater efforts to simplify and improve the technique. I believe from the experiences of the past, together with my knowledge of results obtained by all other methods, I am justified in the statement that this is destined to supplant all other methods in the correction of septal deformities, whether of traumatic or developmental origin.

To quote from a previous article the advantages as there set forth for this operation:

1. It preserves intact all the structures of the septum unless there should be a redundancy of tissue, in which case to that extent it is removed.

2. When correcting a displacement of the so-called columnar cartilage any operation which removes that part of the septum leaves a lack of the sense of resistance while wiping or touching the nose at this point, which is disquieting to the patient.

3. Where there is a distinct dip to the tip of the nose, it can be elevated, making a marked improvement in appearance.

I will add another great advantage—when operating upon an atrophic case, where the preservation of everything not pathologic is so necessary, it adds greatly to the comfort and well being of these unfortunate sufferers.



Fig. 1. Septum De- flected to the Left, De- nuded of Mucosa-covered mains Attached with Its Perichondrium.

For the sake of brevity and clearness I shall consider only one form of deflection, leaving to the ingenuity of the operator to improvise the various steps needed to meet the modification of the various forms of deflection which one meets in operative work upon the septum.

The form I will consider is that in which we have a deflection of the cartilaginous and bony septum. With the speculum in the nares,



Fig. 3. Same as Fig. 2, with Dissection Complete. The Perichondrium and Overlying Mucosa Elevated Upon Concave Side and Severed From Its Convex Side.

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

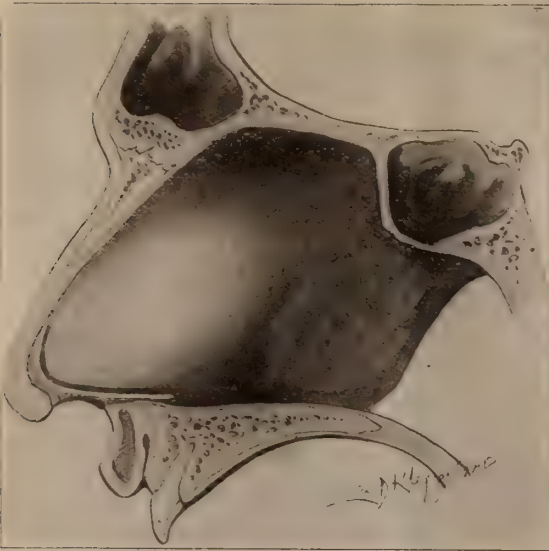


Fig. 5. Deflection of Triangular Cartilage Showing Extent of Dissection. The Perichondrium and Overlying Mucosa Upon the Concave-Right-Side Has Been Elevated, and Cartilage Freed From Its Attachments Upon the Convex-Left-Side, Now Ready to Be Put in Position.



Fig. 7. Showing Extent of Incision Upon the Convex Side Where Bony and Cartilaginous Septum is Deflected and Cartilage Freed From Attachments with the Elevator and Bone Severed with a Chisel after All Structures Upon Concave-Right-Side Have Been Previously Elevated.

upon the convex side, make your incision just anterior to the deflection going through mucosa and perichondrium. With a Freer cartilage knife you pass through the cartilage at an angle of about 45 degrees until you reach the perichondrium on the opposite side, then with a sharp Freer elevator, with the concave side turned so as to present the concave side of the elevator to the concave side of the cartilage and parallel to the septum, pass through the cartilage and

start your dissection. As soon as you find the adhesions light, exchange for a Killian blunt dissector, moving in the line of least resistance, which is usually found a little above the center of the septum, until you have completed your dissection as far as the deflection extends posteriorly. With the same elevator you move down-



Fig. 6. Showing Position of Elevator After Separating Cartilage and Severing Perichondrium and Mucosa Upon Convex Side.



Fig. 8. Cartilage Deflected to the Left, Bone to the Right, After the Perichondrium and Overlying Mucosa Have Been Elevated Upon the Concave-Right-Side. The Elevator Separates the Articulation Between the Cartilage and Vomer, Passing From the Concave-Right-Side Anterior to the Concave-Left-Side Posterior.



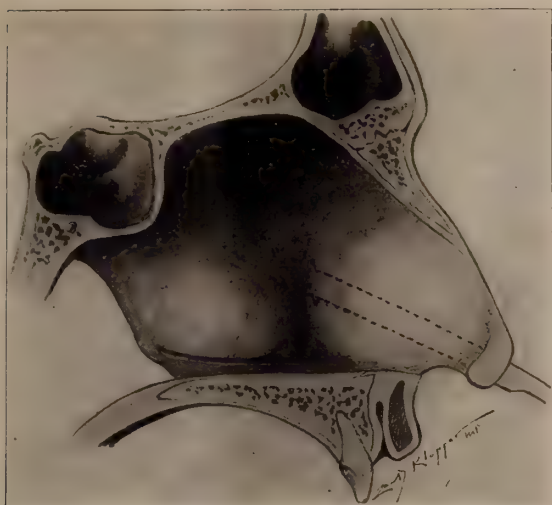


Fig. 9. The Same as Fig. 8. Dotted Line Showing the Course of Elevator, and Cut Line Below Showing Work Done with Chisel.

wards and forwards towards the floor of the nose until you come to the interlacing fibers at the anterior part of the vomer. Then take the sharp angular elevator of Freer's and sever the interlacing bands. After severing these, you then change the direction of your dissection so as to free the cartilage before attempting to elevate the periosteal covering over the crest of the maxilla. You will remember that the crest of the maxilla is covered with periosteum, your displaced cartilage is covered with perichondrium, and if you attempt to elevate the structure over the maxillary ridge before you have relieved your cartilage from its perichondrium, you will get a perforation and render your dissections more difficult.

In separating the cartilage from its perichondrium keep in contact with the cartilage



Fig. 10. Showing Position of Thumb While Making Dissection in Extreme Displacement of Cartilage to the Left at Its Anterior Border. The Mobile Septum Pressed to the Right, Incision Made Through Structures and Perichondrium Elevated Upon the Right Side of Septum. The Cartilage is Freed From Its Faulty Position and Replaced in a Normal One. This Form of Deflection Requires Sutures of Silk-Worm Gut to Hold It in Position.

until you have passed from the concave to the convex side of the septum. After separating the perichondrium go back to the divided structures at the anterior part of the vomer and dissect the periosteum overlying the maxillary crest, making your dissection forward a little anterior



Fig. 11. Freer Cartilage Knife.

to your primary incision, through the cartilage as far as the structures will permit. Now the entire periosteum and perichondrium, with the overlying mucosa upon the concave side of the septum, has been elevated and your cartilage freed from its faulty position alongside of the maxillary crest as far as the vomer, and if the articulation with the vomer is faulty this is also released.

Your next step is to take a Freer chisel and start your incision upon the convex side at the anterior part of the vomer at the point of deflection, which is usually at the point of articulation with the maxilla. Sever the bone, periosteum and mucosa just below the line of deflection as far posterior as the deflection goes. Then with a blunt instrument (and for that purpose I use the instrument I show and have also used a pair of hemostatic forceps closed, also a blunt elevator), push the structures into the bed made on the concave side of the maxillary ridge. I have also used an Ash forcep for the bony septum, and for the cartilage you can accomplish it with any of these, but at times one is more readily adapted to the work than another.

The bony structures when replaced, as a general rule, retain their position, but require packing at the lower part of the septum to keep them in place. The cartilage tends to return to its faulty position unless some retaining instru-



Fig. 12. Freer Elevator.

ment is used for this purpose. Unless the extreme tip of the cartilage is involved, an ordinary shawl pin, two inches long, is the best thing to retain it in position. The pin must have the head covered with sealing wax so that it will not become too deeply imbedded into the tissues before the time for removal.

To introduce the pin elevate the tip of the nose upon the concave side and pass the point through the loose tissue anterior to the cartilage to the perichondrium on the convex side, now pass it at an angle of 45 degrees downward under the perichondrium and the periosteum at the anterior part of the vomer to the floor of the nose,

angle of seventy-five or ninety degrees, such as often occurs, he believes that nothing short of a complete dissection—the old method or the Freer technique—will answer the purpose. However, this is a new operation, and if it is going to make you reduce the discomforts to the patient and make it easier for the operator, he thinks you should all give it a trial.

Dr. J. C. Beck, the chairman, described a case in which extensive removal of the cartilage and bony



Fig. 13. Killian Blunt Dissector.



Fig. 14. Freer Sharp Angular Elevator.



Fig. 15. Freer Chisel.

where the point is engaged in the bony structures, and the head in the upper part of the vestibule away from sight. This pin retains the cartilage in position, and will also retain the bony structure in some cases where bone and cartilage have been deflected; but when correcting a bony deflection alone, it is better to use packing. Where the

septum had been done by an excellent surgeon and in consequence there was continuous flapping of the septum to one or the other side. Dr. Beck made a perforation back along the floor and the patient was thereby relieved of this condition. He thinks that septum should have been left alone entirely, but an operation by the method suggested might have been of some value.

Dr. Tydings, in closing, stated that he had studied this question for many years, and found this superior to any other method that has been used. It will not cure a great deal of thickening of the ethmoid, but you can correct at least ninety per cent of year operative cases by this method and preserve intact the structures of the nose.

The case that Dr. Bergeron saw him operate on was a suppurative otitis media of some years standing,



Fig. 16. Tydings Replacer.

anterior part of the cartilage is involved, whether alone or as a complication, I leave out the pin, using sutures of silk worm gut or silk, to retain the tip in position. Where I use packing, I leave it in from 48 to 72 hours; the sutures from 4 to 6 days; the pin from 4 to 10 days.

#### DISCUSSION.

Dr. Bergeron assisted the doctor in his new operation a few weeks ago, and later examined the case, finding the results were gratifying, with a firm, sound septum. He believes that the operation is particularly adapted to deflections involving parts of the cartilaginous septum, or both cartilaginous and bony septum. However, where you have that redundancy to an

that he thought of doing a mastoid on, but decided to straighten up the nose first. The mastoid has not been necessary because it stopped running—the first time in years—and it has stayed stopped for some months. He offers his services to any man who wants to learn the operation.

#### THE TONSIL—ITS MEDICO-LEGAL ASPECT.

CHARLES J. WHALEN, M. A., M. D., LL. B.  
CHICAGO.

A greater variety and more incongruous ensemble of opinion is inconceivable than that now



held by the general profession regarding the treatment of diseased tonsils.

The intelligent treatment of diseased tonsils implies a clear understanding of what constitutes a normal type. By normal tonsils we mean tonsils of a healthy color, not enlarged in length or thickness, and showing no evidences of chronic inflammatory processes. Tonsils of normal structure vary in size in different persons. A tonsil of normal histologic structure may be of abnormal size; it may be so large as to interfere with the natural functions of the pharynx, or it may be too small to properly perform its own functions. The mere size of the tonsil is of itself no indication for removal except it be large enough or diseased sufficiently to interfere with respiration or is causing local or general pathological conditions.

On August 22, 1916, there appeared in the Health Columns of one of Chicago's daily papers over the signature of an M. D. the following: "A year ago last Christmas I had my tonsils removed," writes Marie D. "They were taken out by a good doctor and I felt fine after the operation. But my throat aches now and it seems as if my tonsils have come back." Answer—"If your tonsils once were completely removed they are gone for all time and never can again return. We are wholly unable to develop either new legs, arms, tonsils or other parts, as do some of the lower animals."

How many threatened lawsuits the above statement will bring about and how often it will be used as a blackmailing club by the unscrupulous to justify a refusal to pay bills for professional service rendered by reputable medical men no one can form even an estimate.

Unfortunately similar statements are being made every day by men supposed to know better. To illustrate the dangers of such statements I will mention a few instances. A child about 4 years of age was operated on by a well known and skillful laryngologist for removal of tonsils and adenoids. Operation thorough so far as inspection and the sense of touch could reveal. Two years later examination showed reformation of both tonsils and adenoids. Parents were told by two physicians that the operation was not thoroughly done, otherwise they would not return. Armed with this statement by two physicians, parents demanded return of original fee, otherwise lawsuit would follow.

Another case, child operation, removed one tonsil and adenoids; the other tonsil was extremely small and, having been pronounced healthy by two laryngologists, was not removed. Following operation the supposedly healthy tonsil took on rapid growth. Two local practitioners volunteered information to the effect that the tonsil was unhealthy and should have been removed at the time of the operation. Father of child refused to pay bill and when sued produced two so-called family physicians to help bolster up his theory.

Scores of instances similar to the above could be mentioned, but the point to be emphasized is this, that it is high time to put a stop to indiscriminate, unwarranted and untrue statements regarding the tonsil operations.

I have in my possession a pair of tonsils and adenoids. The exhibit being the third removal from the same child, the first and second operations having been done by one of our foremost American laryngologists. I witnessed both original and secondary operation and so far as the sense of sight could determine the operation was pronounced perfect.

Dr. J. H. Abraham, New York, J. A. M. A., Sept. 21, 1912, reports having operated on a child five and one-half years of age. It was the fourth operation for adenoids and the third for tonsils.

In order to prove that under certain favorable conditions tonsils will reform I shall quote from an article of mine read before the Chicago Medical Society and published in the ILLINOIS MEDICAL JOURNAL, September, 1912, as follows: That infants and children operated on early, even when the operation has been thoroughly done, have recurrences is authenticated by the statements of numerous authors, as, for instance, Cohen, Jacobi, Freeman, Ludlum, Harris, Potain, Luellum, Delavan, Jaresky, Glogan, Hopkins, Gorke and others.

Freeman sizes up the situation as follows: "Recurrences are due largely to the predisposition on the part of the child to produce adenoid tissue and not to defective operation."

Felix Cohen: "While thorough removal is occasionally followed by recurrence it is only in from 3 to 7 per cent. of cases."

Jacobi: "Recurrences are not always due to imperfect operation, but to careless after-treatment."

Ludlum: "Babies operated on early, even when the operation is thoroughly done, sometimes have recurrences. This, I think, is the reason for the indisposition on the part of specialists to operate up to 2 years of age."

Harris: "The protective function of the tonsil carries with it the inherent qualities of the tonsil to enlarge on the slightest irritation for the affording of further power of defense. This inherent tendency of the tonsil to enlarge is further seen in the frequent recurrences of the tonsil after removal. Up to the time of Hopkin's paper it was generally held that such recurrences do not take place; we now know it is by no means uncommon."

Gorke discusses this subject in an exhaustive manner, especially from a histologic standpoint. After stating the two commonly held explanations for the recurrence, viz., malignancy and imperfect operation, and giving convincing proof that neither of these reasons can be the cause in the majority of cases, he shows that the structure of the growth resembles in the main that of ordinary pharyngeal hyperplasia, but differs in this particular, "that a sharp line of division of the different layers is not possible."

Personally I have seen secondary hypertrophy of tonsils and adenoids following operations done by several of our leading laryngologists. In some instances I witnessed the primary operation and know that it was thoroughly done. During the last year I have seen two patients where secondary hypertrophy occurred and where the operation was done by a physician of note, who on every occasion proclaims in public that he had never seen a recurrence in a case where he had done the original operation.

As a result of experience along the lines indicated, I have arrived at the following conclusions: First, that no matter how skillful the operator, it is impossible by any method known at the present time to remove every particle of lymphoid tissue in either the pharynx or fauces.

Second, that the remaining particle of glandular tissues, be it even microscopically small, is capable under certain conditions of assuming a degree of hypertrophy equal to the original growth.

Third, that under favorable conditions in a certain percentage of operative cases a secondary hypertrophy of the lymphoid tissue in the pharynx will occur, no matter by whom the oper-

ation is done or how thoroughly he may think he has removed all glandular tissue.

Fourth, the reason perhaps we do not see more reoccurrences among our own cases is because when the obstruction recurs patients are likely to seek another physician; also that patients are more or less constantly changing physicians, and that when we do see secondary hypertrophy in the other fellow's patients we are inclined to believe that the primary operation was not complete. We should also remember that the other fellow is thinking the same of our cases.

25 E. Washington St.

### THE TONSIL IN ITS RELATION TO A SERIES OF INFECTION SEQUENCES.\*

FRANK BUCKMASTER, M. D.,  
EFFINGHAM, ILLINOIS.

I present this subject as one who refers tonsil operative work, and from the view point of the general diagnostician and general surgeon.

The routine discussions of its anatomy and physiology I wish to avoid except to say:

1. There is a lymphoid ring in the throat guarding the entrance to the respiratory and gastro-intestinal tracts, composed of (a) faucial, (b) pharyngeal, and (c) lingual tonsils, in order of their pathologic importance, and (d) there are many other irregularly placed lymphoid masses scattered here and there in the mucosa of this region. These unnoticed masses frequently become infected and hypertrophied also.

2. That the faucial tonsils each contain many crypts or pockets, lined with epithelium, some reaching through to the deepest surface of the tonsil, and that from tissue changes resulting from infection, swelling, adhesions, phimosis, etc., some or many of their crypts may become permanently closed pockets, especially about the upper pole, becoming hot beds of infection, practically culture tubes.

3. That the pharyngeal lymphoid (tonsil) mass may also have crypts which increases its dangers as a local infection incubator and, therefore, as a distributing depot.

4. That the preponderance of evidence to date physiologically indicates that the tonsils are absorptive, rather than excretory, parts.

How shall we recognize infected tonsils? This

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



is not always easy, and their infection may be difficult to prove. A mere glance at the throat will not suffice for a finished diagnosis; however, too frequently tonsils that are plainly damaged—hot beds of pent-up infection—slip through the hands of too many physicians with no attention at all to the throat condition or with a negative pronouncement; a failure properly to understand the relationship of cause and effect in infection sequences.

The general practitioner is the index of achievement; therefore, the tonsil question, like others, advances to a safe conclusion only in proportion as all meet on a common ground of understanding as to when tonsils are dangerous to the carrier and when not. As yet there are many disputed points in this connection; three, however, seem to have been settled fairly congenially, especially the first two:

1. Respiratory obstruction indicates to most physicians the presence of massive overgrowth of part or all of this lymphoid ring and need for operative interference.

2. The continuance of repeated acute attacks of tonsillitis. Very few physicians will deny that these tonsils are a constant source of danger.

3. Massive hypertrophy is a tonsil condition most physicians are quick to recognize as a diseased state, even if respiratory obstruction is not prominent.

Now, as we pass from these three easily and generally recognized infective conditions of the tonsils, do we begin to appreciate how difficult it is to determine as to their infected state; whether they are a source of danger, or not? Why? Because most tonsils harboring dangerous foci of infection are not hypertrophied; are not standing out in plain view of the casual observer, but submerged, hooded and phimosed—many times almost from view; because many of these cases never had respiratory obstruction; never had acute attacks of tonsillitis or they have been forgotten; because so frequently their danger to the host depends not upon local disturbances, but upon their relation to certain general conditions, as well as distant metastatic foci, together with the progressive tendency of these things when started; probably not in childhood but in adult years. Evidently, then, the examiner must establish a routine in his work relative to tonsillar examinations and a basis of findings which will help him to decide as to this matter. Other

factors to be considered in identifying the tonsils as infective sources of danger are:

1. Adhesions about the tonsil, hooding or covering it in, more or less; these result from infection in the part and the adherent parts frequently cover in crypts, making closed incubating pockets of them.

2. Has the tonsil become a dangerous focus of infection in proportion to its hypertrophy? No; while hypertrophy is a reactive state these large tonsils are in a better structural state to resist infection than the more common, small, fibrous, phimosed tonsil, whose protective lymphatic mechanism is much more seriously crippled than in most hypertrophied tonsils. Mere plugs or remnants of tonsils, then, must not be considered as incompatible with resident foci, but frequently the reverse.

3. Zones of redness about the tonsils, marked or not; frequently there is a half-moon shaped zone over the front surface of the anterior pillars caused by the infected tonsil beneath. These color zones are easily contrasted with the mucosa about them.

4. The presence of more or less general discoloration of the throat, often most intense about the tonsillar fossae and up behind the soft palate, together with unusual or abnormal lymphoid masses studded over the back wall of the throat, indicate persistent infection foci about the nasopharynx, very often in the pharyngeal or faucial tonsils, and a complete search should be made.

5. The inconsistent persistency of the tonsils is an evidence of their infection.

6. Palpable enlargement of the tonsillar lymph gland lying between the facial and internal jugular veins below and behind the angle of the jaw on either side. This one gland drains the tonsil fossa of its own side and should always be examined; its enlargement (when not a part of a general lymph gland hyperplasia) indicates absorption of infection from within or about the tonsil. This is a very valuable sign in your search for the dangerous tonsils. It will disappear as a palpable enlargement when the tonsil fossa of its own side is properly cleaned up and healed up, but if a little tonsillar or granulation tissue remains indefinitely in the fossa after operation, an open mouth of absorption, however harmless in appearance, this gland enlargement persists and betrays it. Tenderness of this gland on palpation, which is frequent, indicates a re-

action to a more rapid and virulent absorption and frequently by continuous observation these glands will be seen to go through repeated cycles of tenderness, with remissions or intermissions, yet with persistent gland enlargement, thus denoting the relapsing cycles of tonsillar infection at times without the patient having been aware of the local changes in the throat. The absorption may be so severe that tenderness in and about this gland has become persistent and is the regular finding in a given case.

7. Multiple glandular enlargement about the tonsillar lymph gland probably indicates that the latter was unable to prevent the infection from spreading through it to other glands, which it has done. Frequently the tonsillar gland will be observed to be the largest of all. This condition, in the absence of a recent acute tonsil infection, must make the examiner very suspicious of a tubercular infection, probably in both the tonsils and glands. Such a tonsil has no regularly characteristic appearances, but is known best clinically by its effect on the lymph glands, and tubercular lesions frequently will be found elsewhere also.

8. The lateral neck regions, along the sternomastoid or other muscles, is frequently complained of as being painful, tender and distressed on palpation or active movement of the part and there may be noticable limitation of motion. These recurrences correspond with the storms and relapses of absorption from the throat. The throat may be complained of very little, the patient attributing the "rheumatism" in the neck to "cold" or changes of weather.

A history of frequent "colds," myositis, arthritis, earaches, deafness, chronic fatigue and anemic states should direct one to make a careful examination of the naso-pharynx. Also the history of such specific fevers as diphtheria and scarlet fever, as these frequently initiate a permanent infection state in the pharyngeal lymphoid ring, particularly in the faucial tonsils.

Now, what do we find when we go into the matter of metastases resulting from chronic septicemias from pent-up infections, tonsillar or otherwise?

How do we know that tonsil infections produce metastatic infections elsewhere, not in one or two, but in many locations? Just as we learned that many of our dyspepsia and various types of stomach cases get well when we removed

appendices, cleared up bile tract infections and obstructions, being forced to do so, however, by the dangerous progressiveness in the operative part itself. Today it is acknowledged good surgery to clear up these local abdominal conditions early in the history of their digestive disturbances and poor diagnostic ability to overlook all these warning storms in distant organs, until brought to a realization of the real condition by a "blow up" in the local part itself, frequently of momentous importance. So it is in tonsil work. It must be recognized that tonsil infection (as with other pent-up foci) can and does produce a circulating bacteriemia or chronic septicemia, with metastasizing here or there of these bacteria picked up from a focus under tension—usually the streptococcus in some of its forms of transmutation—but do we realize sufficiently what this means to the future welfare of the patient; how extensive and how permanently crippling may be any or all of these secondary infection foci; how this chronic septicemic state maintained by daily contributions from the pent-up focus, sooner or later produces secondary foci? Where? Almost anywhere, but more frequently in certain parts. The appendix seems to be the most frequent site of such metastasizing infections, then the heart, the joints, muscles and tendon sheaths (acute and chronic "rheumatisms" and chronic rheumatoid arthritis) the kidneys and their pelves, the bile tracts and pancreas (the liver and pancreas being so frequently affected by syphilis also) the ovaries (producing cysts and sclerotic degenerations), the stomach and duodenum (ulcers), the colon (chronic colitis), the thyroid (storms of thyrotoxicosis), the meninges (meningitis and chorea), the bones (but acute osteomyelitis is probably more frequently secondary to cutaneous or subcutaneous foci); of the cardio-vascular-renal system, producing degenerations and high blood pressure with its resultant crises, apoplexy, slow but certain cardiac and renal failures, gangrene of the extremities, and many other changes as well. Tuberculosis is not infrequently harbored in these tonsils and all will admit that it is not likely to be an innocent or a harmless guest. Pulmonary, lymphatic (cervical and mesenteric) appendiceal and other localizations of tubercle bacilli join into this series of infection sequences clinically too often for mere accidental relationship in the matter. At least it is certainly



greatly predisposed to, by the state of anemia, reduced vitality and extra vital taxation resulting from these infection foci.

Now, is it possible that the little infected tonsil which has seemed to cause no local disturbance worth noting, may and does produce these distant and dangerous lesions? Yes, in its way. It certainly did not produce each and every one of the several metastatic lesions directly, but it does frequently produce the first persistent septicemic state which leads up to and causes metastasizing of the infection here and there, and each such secondary focus, in turn, adds to and increases this state, making more certain further metastases, with their development and crippling of the parts, increasing the anemia, with further lowering of the vital forces, often to the point of semi or total invalidism, even in young people, the development of a connected series of infection sequences in various parts, producing a state very inviting to tubercular activities.

Gardiner<sup>1</sup> has shown how utterly impossible it is to exclude a resident tonsillar infection by looking at the tonsils. He removed tonsils from thirty cases having chronic adenitis, limiting this study to those in whom the adenitis did not begin in the lower part of the neck and also to those in whom he could find no apparent or obvious local focus to cause the adenitis.

On removal, he placed the tonsil immediately in a sterile capsule and examined by flame sterilization; the capsule on deep (external) part of the tonsil was then opened, this deepest tonsil tissue cultured and also planted under the skin of guinea pigs.

In 80 per cent of these cases having no detectable source of the adenitis by the usual examination, he found tonsil infection pent up in the deepest part of the gland. He found as infecting agents the streptococcus in 25 per cent; the pneumococcus in 25 per cent; the micrococcus catarrhalis in 25 per cent; the staphylococcus in 16.6 per cent; tubercle bacilli in 14.3 per cent; bacillus coli in 7 per cent; Friedlander's bacillus in 3.5 per cent. Eighteen of these thirty cases had atrophic tonsils. Four of the six pigs showing no infection died too early for tuberculosis to be shown if present.

Willis<sup>2</sup> examined two hundred and thirteen

tonsils removed from 108 patients. Cryptal concretions were found in one hundred and fifty-four. Abscess in thirty. Pericryptal inflammation in one hundred and sixty-five. Positive evidence of tuberculosis in 5 per cent, with a multiple cervical adenitis present on the same side in every case except one.

Such findings are significant, in that many dangerously infected tonsils, from our present standards of observation, have been and still are passed by as harmless.

We checked up as follows in one hundred cases examined, which showed unmistakable evidence of chronic or long standing tonsillar infections, judged by the local evidences:

- 69 had appendicitis, 45 of these having had acute attacks.
- 60 had cardiac infections at the present time, or the crippling resulting from past infections mostly myocardial, but occasionally endocardial as well.
- 54 were markedly anemic, there being three cases of the primary type, one being due to dental infections without doubt.
- 47 had positive evidences of gall bladder and bile tract infections.
- 44 had pyelitis or infected kidneys.
- 42 were subject to so-called chronic "rheumatism" (muscle and joint pains and soreness).
- 25 gave a history of occasional febrile attacks frequently without known cause; in some associated with noticeable cervical gland enlargement; in others with, or followed by, "rheumatism" or a storm of aches and pains; in others with slight colds, slight throat irritation, etc., not including the clinically acute tonsillitis attacks.
- 24 gave a history of enlarged cervical glands on one or both sides (about the angle of the jaw) plainly noticeable to themselves, frequently intermittent in their enlargement.
- 24 had clinically active tuberculosis (lungs, appendix, cervical and mesenteric adenitis, tonsils, fistula).
- 9 had had severe attacks of acute articular rheumatism, some prolonged.
- 7 had ulcer of the stomach or duodenum.
- 7 had clinically marked thyrotoxicosis.
- 5 had had chorea.
- 3 had asthma at times seeming to have been associated with recurring infections in the naso-pharyngo-respiratory tract.

1. Tonsils and Chronic Cervical Adenitis, *Lancet*, Oct. 2, 1915, p. 752.

2. *Southern Med. Journal*, vii, 746.

3 had marked and severe chronic colitis coming on evidently only after the development of appendix, bile tract and pancreatic infections and cleared up by operative treatment of these apparently causative infections.

2 had metastatic bone infections.

2 had very marked liver cirrhosis in patients free from the use of alcoholics and evidently free from syphilis, but evidently secondary to very old bile tract infections and both had what seemed to be primary liver carcinoma secondary to the cirrhotic reaction, supervening on the cirrhosis.

1 had developed a painful thickening in the right breast during the decline of an attack of tonsillitis three years before, which after the acuteness of the breast lesion passed away, remained as a thickened tender and occasionally painful lesion for two years, then took on activity and at operation one year later was found to be a carcinoma developing from a chronic cystic mastitis, evidently directly metastatic from the acutely infected tonsils.

1 had five stones lodged in the right ureter simulating chronic appendicitis, but with a history definitely indicating renal infection; several of the cases of kidney infection had had renal colic attacks, four or five of them giving a history of having passed small stones with each attack, but none remained in these kidneys.

Now, as to the tonsils themselves in these one hundred cases, forty-five gave a history of one or more attacks of acute tonsillitis, twenty-one had hypertrophied tonsils, sixty had markedly atrophic and submerged tonsils. Four gave a history of tonsillar (peritonsillar) abscesses. One hundred of them showed plainly palpable enlargement of the one tonsillar lymph gland on one or both sides, according to the tonsillar infection, while in many at the time of examination multiple adenitis was present, involving glands about this tonsillar lymph gland, behind and below the angle of the jaw.

The average age of these one hundred patients was a fraction less than twenty-eight years, ranging from four to seventy-eight. Many of these cases had an increased blood pressure as well, and frequently one will see this corrected or materially improved by removal of infected tonsils, or clearing up other foci. That vascular fibrosis and high blood pressure constitute one link in

this series of infection sequences in many cases, later on, there can be no doubt, though this may be luetic.

There were three cases of subacute relapsing nephritis with severe albuminuria casts, blood cells, scant urine, etc., regularly relapsed by relapsing tonsillar, tonsillar and respiratory tract, or appendix infections (one each).

Now I realize that this checking up of links or sequences in a progressive chain of infection—metastatic incidents to a chronic septicemia—in which the tonsils were harboring a pent-up infection, at the time, and were probably the most frequent origin of the septicemic state is open to much criticism because:

1. It was not known positively, of course, that the tonsillar infection ante-dated all other infection foci, producing the first septicemia.

2. It would be manifestly unfair to blame a tonsillar infection with directly producing each and every metastasis above outlined. Instead, there is some order as regards incidents and time of appearance of these progressively appearing lesions.

Appendix and endocardial infections, "rheumatisms" and chorea, anemia, and even at times chronic or subacute infective nephritis come early in the series. Added to these progressively later in the series may be bile tract (influenced by pregnancies) and pancreatic infections, pyloric ulcer, myocardial infections and degenerations, and vascular fibrosis with high blood pressure (cardio-vascular—renal degenerations) with its attendant crises, chronic rheumatoid arthritis, etc. But 20 per cent of our cases of bile tract infections had had typhoid fever and most of these had had appendix, intestinal or other infection-foci which are common causes, reducing typhoid to a minimum in the causation of gall-stone disease.

The infecting cocci undergo cultural changes in virulence and otherwise in the various foci, more properly fitting them for their successful attack in new fields, accounting for a certain amount of order or regularity in the development of these successive series of infection sequences.

3. Some of these cases had sinus infections, pus pockets at tooth roots and pyorrhea, prostatitis and vesiculitis, any of which can produce this chronic septicemia or continue it, but tonsil infections usually precede these in life.



4. This checking up does not take into account the many pelvic infections, neisserian and otherwise, in many of these cases, nor their influences on the whole chain and vice versa.

5. No account is taken here of the possibilities of chronic septicemia resulting from intestinal tract foci, primarily, rather than from the naso-pharynx.

6. These cases usually came, not early for tonsil work, but later because of the crippling and progressiveness of secondary foci, with anemia, chronic fatigue, nervousness, dyspepsias, etc., added to the symptoms regularly accompanying their respective lesions—as with many so commonly seeking surgical relief.

7. We did not attempt in this one hundred cases to check up on all infective lesions, possible to develop as a sequence in such septicemic states from tonsils or other foci.

*Treatment:* When these cases reach the general surgeon, medical or expectant treatment usually avails little, but with the proper rest (often absolute) we are enabled to improve the local and general conditions, thereby lessening the operative risk or making it relatively safe. Remove as many infection foci, primary and otherwise, as possible, then the patient may be recuperated satisfactorily by rest, medicine and other recognized means. This applies also to these patients having active tuberculosis, *yet in the curative stage*. Removal of all other infective foci, naso-pharyngeal, abdominal, etc., by proper operative methods, permits the vital powers to establish a quarantine fibrosis about the lesions, producing a latency otherwise impossible in many cases. Obviously, then, many of these cases have progressed too far in this chain of infective sequences for a removal of the primary focus to clear them up, enabling them to live independently of their physician. This helps, though, as the primary focus is the greatest distributor of infection and should not be neglected. Omitting reference to all other operative procedures (for infections outside the tonsils) we must urge the complete enucleation of tonsils as the operation of choice. Clipping of the tonsil does no good as a rule, but is still done for no other reason than selfish personal gain.

Murphy's circumcision of the tonsil and Makuen's opening and draining of the crypts are conservative measures for the consideration only

of the special tonsil operator. Blum<sup>3</sup> and French are so conservative as to be ridiculous. The latter believes<sup>4</sup> that 80 per cent of hypertrophied tonsils do not contain infection foci and need not be removed.

The conservative treatment of worth to the patient is the one that best removes the cause and conserves his health, preventing the development of metastasis, or minimizing those present by cleaning up the chronic septicemia in so far as it is fed by the tonsillar infection and in my experience no condition leaves the patient so well in line for this result as does a complete removal and thoroughly healed over fossae.

Complete removal must remain the operation of choice. What happens after the removal? Too frequently it is incomplete in spite of skillful and well directed efforts of the trained operator and how much more frequently must the all-round specialist or occasional operator fail to get a complete removal? After enucleation a large cup-shaped fossa is left to be covered in. This cavity spread out on a plane would be surprisingly large in extent. Nature's first protection or covering is a whitish mold or exudate. When the raw surface is all nicely covered over in this manner the troublesome soreness disappears, the patient swallows easily and he believes his throat is healed now and too frequently at this time (about the end of the first week) too many surgeons (or those who do surgery) discharge their patients and give them no further attention. This is the grossest of negligence as regards end results. Soon now the white exudate disappears gradually, which means that the raw surface has been covered under the exudate by granulation tissue but not yet healed in. It is still in a measure an absorptive surface even if we are taught that granulation tissue is protective and non-absorptive. The final word in this healing process to render the fossa completely non-absorptive is its perfect epithelialization, which proceeds toward the center from the edges of this great raw surface now covered by granulation tissue, just as a large burned area is gradually covered over from the edges by the modified skin after becoming covered by granulation tissue. This process in the tonsil fossa is a very slow one, and it may be observed in its progressive steps for weeks before being finished perfectly—or too frequently

3. Archives of Pediatrics, vol. 32, No. 11.

4. N. Y. Med. Jour., Dec. 5, 1914.

the process of epithelization peters out before it is finished because of overgrowth of granulation or lymphoid tissue, leaving a mass of granulation tissue bulged up over the unhealed portion of the wound, which may now be small in extent. To all appearances in many cases the actual tonsil tissue is all out, but whether this be true or not the wound for practical purposes now remains open indefinitely, the tonsillar lymph gland remains palpably enlarged, the anemia, septicemia, and metastatic heart, kidney or other infections, fail to be relieved as was expected, and as will occur perhaps when the fossae are cleaned up again and carried on to a complete healing; very frequently, too, a small piece of tonsil was left sticking in the fossa, which rapidly enlarges again after the patient is discharged at the end of a week or ten days, interrupting this complete epithelization above referred to, in which instance the end result is one hundred per cent. sure not to be as satisfactory as it should have been. In many of these cases the remaining piece of tonsil, possibly unnoticed in the first week, may look like a whole tonsil in a year or two. In either of these instances an open, absorptive surface remains, and frequently tissue harboring a hotbed of infection persists, with unsatisfactory local and general results, all of which, with the patient's co-operation, is inexcusable and must be considered as poor surgery.

These cases must be followed up, remaining pieces of tonsil removed, granulating surfaces cauterized, epithelization stimulated, etc., until the fossae are completely healed in and the surface rendered non-absorptive. This may require months of observation but usually will be accomplished in but few weeks if diligently followed up. There are now too many patients who believe their tonsils are out and the fossae healed, when in effect they are not.

J. C. Simpson<sup>5</sup> reported 571 cases of enucleation of tonsils and removal of adenoids done by accomplished tonsil operators in Philadelphia:

- 320 had sore throats before operation.
- 115 continued to have sore throat after operation.
- 205 (64 per cent.) were relieved by the operation.
- 316 (55.25 per cent.) had a complete removal of tonsil.
- 255 had tonsil tissue remaining—in 72 enough to class as an hypertrophy; in 183 a slight amount (which will continue the fossa as an open absorptive area and probably as readily

harbor pent-up infection, as shown by the enlarged lymph gland draining the area, the anemia and fatigue, etc. This is much like the slightly or strongly positive Wassermann—a distinction without a difference).

- 17 of these 255 were re-operated on, fifteen for the cure of continued sore throat.
- 58.46 per cent. of the mouth breathers were cured.
- 70 per cent. had their general health satisfactorily improved.
- 77 per cent. had previous ear infections, deafness, etc., satisfactorily improved.
- 30 of 46 bed-wetters were cured of this condition.

The statistics in this paper would only have been of value had the author listed the cures and failures under the two heads: (a) Those with complete tonsil removal, and (b) those in which such was not the case. Then a further factor severely influences the end results, namely, the presence of other foci, primary or secondary, which continue the chronic septicemic state. On the whole his results constitute an excellent showing, considering the fact that but 55 per cent. had complete tonsil removal and that undoubtedly in many of the 571 cases other infection foci were present in an active way which must in degree have prevented complete recovery in many instances.

Concluding, then, let us say:

1. That the tonsil tissues (faucial and pharyngeal) are a very frequent source of the chronic septicemic state which ultimately leads directly or indirectly to such numerous, widespread, various and crippling metastatic infection as we know to occur.
2. That the presence of known metastatic foci, or chronic states of nervousness, fatigue, dyspepsia, anemia, thyroid storms, increased blood pressure and "rheumatic" states should remind the examiner of the probable presence of a persistent primary focus of infection about the mouth or nasopharynx, genital organs, colon or rectum, which, through the agency of the resultant chronic septicemia, is just as persistently continuing other foci, which, through the cultural modification of the infecting cocci taking place in them, are enabled to initiate and continue still other foci, parts, and destruction of all efficiency or even of life itself.
3. That tuberculosis is a frequent complication in these cases and for its own cure frequently

<sup>5</sup> Jour. A.M. A., April 1, 1916, p. 1016.



demands the surgical eradication or minimizing of all other foci consistently possible.

4. That where tonsil removal is necessary, to get proper results, it must necessarily be complete, and the patient should not be discharged until the fossae are known to be perfectly empty and healed in.

5. That all patients having tonsil operations should have a general examination by one competent to determine as to the presence of anemia, appendix, heart, kidney, bile tract, pancreatic and other infection foci, blood pressure, tubercular activities, and so on. Many patients have one or several of these conditions already developed when the naso-pharynx is put in order, and should be informed of it at that time, as to be forewarned is to be forearmed. They need further observation and treatment; we would also learn more definitely the therapeutic possibilities of removal of primary foci in relation to the various secondary foci and conditions, in their various stages of development.

6. That timely and complete eradication of naso-pharyngeal infections (mouth and other primary foci) will very decidedly reduce the need for much of the present-day abdominal surgery and will minimize the crippling of heart, kidneys and vessels which is destroying so many useful lives.

7. That in this review of infection sequences, no special consideration has been given to the damage that may be sustained by the organs furnishing the internal secretions, and the resultant effects on health and longevity; that even as children we head toward the grave by definite, but possibly by slow and miserable routes, when we begin to carry pent-up foci of infection in the naso-pharynx, leading to chronic septicemia and metastatic foci; that these cases are essentially surgical in so far as there is a possibility of removing persistent primary or secondary foci, and that the general plan of procrastination so commonly persisted in until multiple lesions, complications, etc., develop is to be condemned as against the best interests of the patient.

#### DISCUSSION.

Dr. Burkhardt considered this paper of especial interest on account of the fact that it is a record of the clinical observations of one who is working practically exclusively in the field of general diagnosis and general surgery. He thought that the general practitioner too often fails to place the proper significance

of infected tonsils in relation to the general system. He has often noted a small tonsil hooded or covered practically by the pillars and submerged, contains considerable pus, and that the removal of the largest kind of tonsils has relieved the patient of rheumatic troubles.

As to after-treatment, he noted in one case, two months after removal of the tonsil, an ulcer that was not healed over.

#### DIAGNOSTIC AND PROGNOSTIC VALUE OF VISUAL FIELDS WITH SOME SUGGESTIONS IN TECHNIQUE.\*

GEO. F. SUKER, M. D.,  
CHICAGO.

By perimetry is meant the study of the direct and indirect field of vision. As transcribed upon the chart, it represents the horopter of vision. It is an aid to diagnosis in so far that though the ophthalmoscope may and does reveal many things, yet many affections of the optic nerve, optic tract, chiasm, primary and particularly secondary centers, and cortical centers do not manifest themselves by any definite changes in the fundus oculi. Yet an involvement of any of the above portions of the visual apparatus will give definite changes from the normal in the transcribed field as taken on the arc perimeter.

Perimetry, therefore, in turn serves as an aid in prognosis in so far that it gives the only tangible means, whereby we can judge or fully appreciate any change in the conditions in the lesions of the above mentioned parts of the composite sense organ of sight by the changes that occur in various visual fields taken at varying times.

As an aid to diagnosis, it serves to definitely outline the involved area of the perceptive portions as well as the conducting portions of the visual apparatus. It can serve as a localizer for foreign bodies which have penetrated the posterior globe and which are so small and leave but a doubtful ophthalmoscopic evidence of their passage through the sclera. It also is a great aid in separating the functional from the organic visual defects and exposing the malingerer.

It aids in the interpretation of the localization of the lesion in suspected tract or chiasm involvement, either by direct or neighborhood affairs and also in estimating which of the post nasal sinuses

\*Read before the Eye, Ear, Nose and Throat Section of the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

are affected, in the latter not always, but of sufficient frequency to be of vital importance.

Careful perimetric measurements will often, nay always, aid in diagnosis when dealing with suspicious optic nerve heads in which central visual acuity is but slightly reduced, and the ophthalmoscopic picture is indefinite.

It also aids in distinguishing, at least in many instances, between chorioidal and retinal disease. Even in mature cataracts it can foretell whether there is any optic nerve atrophy, though perception and projection of light as ordinarily taken would not reveal any atrophy.

So it can be seen that perimetry is much more of an aid in certain diseases or disturbances of vision than the ophthalmoscope itself.

Our vision is of a two-fold type—central and indirect. In central vision the eye fixes intently on a small object and the immediate fovea centralis area is brought into use—any vision outside of this area is eccentric or indirect as objects, more or less in detail, are also seen in the periphery when the fovea centralis itself is fixed upon another small object.

It is the careful analysis of the changes in the central field and indirect visual field by perimetry which will be of value in localizing lesions. As the area of our indirect vision is much larger than our direct, it is necessary to be careful in taking our fields, particularly when we realize that our peripheral field is very acute for observing moving objects which is not true of the macular area. This latter area fixes principally upon stationary points. This fact makes it obvious that we must have a varying technique for taking central and peripheral fields—a fact not universally appreciated by all of us.

Many of us fail to appreciate that perimetry is a painstaking measure and one that must be done accurately in order to be of full value as an aid in diagnosis and prognosis.

There are many perimeters and all have some advantages, but none is as good and scientific as the simple arc of Foerster or Schweigger, either of which must be used in day light.

#### TECHNIQUE.

1. Position of perimeter—arc facing unobstructed light—preferably north light.
2. Position of patient—back to light and comfortable position in chair and chin rest.
3. Fixing the eye in perfect line and plane

with center of arc. The other eye must be accurately and completely occluded—occlusion must not extend higher than nose.

4. Constant attention that the fixing eye does not rotate about and search the moving disc.

5. Allow periods of rest and change to avoid exhaustion.

6. Note the kind of light—as bright, clear, cloudy—also time of day.

7. Take fields at different hours of the day e. g., forenoon and afternoon.

8. Outline blind spot first—this is easy and fully explain to patient what is wanted for taking color and form field.

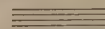
9. Take form field first—check same by first moving disc from periphery towards center of arc and then again from center to periphery—noting each point.

10. Take color fields in order—blue, red and then green—again from periphery to center and reverse taking note of each point. Colors must be recognized as such, i. e. saturated.

11. Always move arc in one direction and ascertain point for temporal field first and then nasal, take upper points before lower points in field.

12. Have uniformity in marking.

(a) Relative scotoma by



(b) Absolute scotoma by



(c) Blind areas other than scotoma by solid



black markings.

13. Always make a measurement at least at every 10 degree swing of arc.

14. In the periphery of the field always oscillate disc and take average.

15. Always use two discs, 5 and 10 mm. the latter field will be larger than the former and the difference represents the negative scotomatous area for that given portion of the field.

16. For colors use the vegetable dyes.

(a) Color recognition must be for saturation of said color. All colors, from periphery of field to center pass through black to white as it were.

17. The rapid changing from a 10 mm. to 5 mm. disc at the same point will frequently elicit the relative scotoma present in that area of the field.

18. Always note the following:

- (a) Size of nose, whether large, flat, etc.
- (b) Prominence of cheek bone.
- (c) Palpebral aperture.
- (d) Size of pupil.



- (e) Visual acuity.
- (f) Condition of cornea and media.
- (g) Whether any medicines, such as strychnia or atropine have been taken.
- (h) Prominence of brows.

#### PATHOLOGY.

The pathology of a visual field is two fold, possibly three fold:

- (a) Scotomata or blind spots.
- (b) Changes in size and shape of form field.
- (c) Changes in size and shape of color field.

Scotomata are:

- (a) Relative (area in which form *may be seen but not all colors.*)
- (b) Absolute (neither perception of form or color).

Virtually then there is only a difference in degree between the two.

Both relative and absolute scotomata may be:

- (a) Positive—patient sees entopically black or gray outline of object.
- (b) Negative—are not recognized by patient and can only be outlined by perimeter.

Positive scotomata are a lesion or lesions which prevent image formation on the rod or cone neurons.

Negative scotomata are usually associated with disease of the nervous ganglionic elements or affections of the axis cylinders.

In recent cases the location of the lesion causing the scotoma can be relied upon; but in long standing cases a positive scotoma may become negative or a negative may become positive. This point must be taken into consideration in arriving at a diagnosis or making a prognosis.

Negative scotomata can be either relative or absolute, just as the positive scotomata. Negative scotoma are much more difficult to outline than positive ones.

Again scotomata may be: (a) central, (b) paracentral, or (c) peripheral.

A central scotoma includes the macula and its immediate area and may be:

- (a) Pericentral—around the macula.
- (b) Paracentral—along side of the macula.

Peripheral scotomata are beyond the macular area—somewhere between the 45th meridian and periphery.

A subdivision of the scotoma is the ring scotoma. In this several small scotomata coalesce

and may form a complete or partial ring on either side of which there is some vision.

These ring scotomata occur most often between the 15th and 30th degree circles. In this zone the short ciliary arteries terminate and with the peculiar arrangement of the chorio capillaris here, may account for the ring scotoma when vascular changes occur which implicate retina or chorioid. However, the exact formation is still an open question.

When a ring scotoma disappears, it usually first breaks up into small islands—in other words, it disappears as it appeared. This fact must also be well remembered in making a diagnosis and casting a prognosis.

Ring scotomata appear in diseases of the retina and chorioid, but may occur in diseases of the optic nerve, chiasm or brain; one or both eyes are involved and the location of the lesion will determine this fact.

We speak of a central, intermediate and peripheral field of vision:

- (a) Central—from macula to 15° circle.
- (b) Intermediate from 15°—45° circle.
- (c) Peripheral 45° and beyond.

There are three types of changes in the form and color field:

1. Concentric contraction.
2. Concentric contraction combined with angular or irregular areas of greater loss.
3. An almost normal field with large and irregular angular defects in one portion which may even involve the area of central fixation—so-called re-entering angles.

Primary optic atrophy is the best example of the first class; optic neuritis is an example of the second class.

The third class, a combination of the other two is best exemplified by glaucoma. In sinus diseases we usually have the third type and then it is unilateral, as a rule, same side as involved sinus.

Contraction in form field denotes the degree of visual tract involvement and gives a better understanding of conditions than the ophthalmoscope.

Color fields and their changes are a more delicate test than form defects and often furnish the first clue to the trouble—long before there is an involvement of the form field. In this connection we note that blue is more clearly seen in the indirect vision than in the macular area;

blue defects, therefore, are observed earlier in central visual defects than in the lesions of the periphery.

In disease of the conducting paths and centers, blue may be retained, while red and green may have been lost for some time.

Reversal of blue and red or blue and green usually indicates an organic lesion.

Red and green reversal or interlacing denotes a functional lesion only.

In chronic interstitial nephritis the blue field is often the tubular field—almost pathognomonic.

In hysteria, in addition to color reversal there is often the tubular field—almost pathognomonic.

In all our field taking we must avoid exhaustion. Exhaustion often distorts a normal field. A typical exhaustion field is the so-called spiral field.

For convenience of analysis we can consider the fields under the following division of the visual apparatus:

(a) Intra-ocular; including the chorioid, retina, nerve head.

(b) Optic nerve proper.

(c) Chiasm.

(d) Intra-cerebral, i. e., optic tracts, primary optic centers, optic radiations and lastly the portion of cortex concerned in vision.

A defect in the blue field in no wise proportionate to the red and green defect is characteristic of chorioid and rod and cone (layers of retina) lesion. Hence it serves to distinguish them from the retinal lesion. Contraction of red and green beyond the blue is indicative of lesions of the inner layers of the retina and the ganglionic axis cylinders.

Again the scotoma present in disease of either serves to distinguish them—namely, a positive scotoma accompanies chorioid and rod and cone layers; while a negative scotoma is usually seen in diseases of the inner neuron and axis cylinder.

Multiple scotomata, irregularly distributed over the field, are rather characteristic of chorioiditis. In the syphilitic type, ring scotomata are common. Their manner of formation and breaking up are good evidences for the prognosis—absolute scotomata become relative—remain so or disappear entirely.

Peripheral field contractions are also characteristic of chorioiditis.

In retinitis, especially of the diffuse type, narrowing of form field is seen early—later on the

color fields shrink. Scotomata are negative; central scotoma are rather frequent, as the macular area is often the seat of a focal lesion in diffuse retinitis.

Syphilitic retinitis: Contraction of form and color field is early seen and often central vision is reduced to light perception.

In retinitis nephritica, narrowing of color and form field is pronounced. The accompanying edema of the retina gives rise to indistinct negative scotomata while the hemorrhages cause relative and absolute scotomata. The edema of disc increases the blind spot; with all this, vision may be near the normal.

In diabetic retinitis the visual fields are similar to those of nephritic retinitis.

In retinitis pigmentosa there usually is a rapid, though rather irregular concentric contraction of both form and color. Preservation of central vision for form and colors long after the periphery is blind is characteristic. Ring scotomata are characteristic in the early stages. There is a lack of central involvement until the progression of the peripheral loss reaches the macula.

Persistent medullary fibers give an increased size in the blind spot, and, when medullary fibers are ectopically situated, negative scotomata are evinced only by the perimeter—principally in the intermediate zone.

In an active inflammation of the disc accompanying a choked disc, there are peripheral field changes, concentric contractions—frequently sector like defects in color and form. The peripheral field involvement in this condition is more suggestive of active nerve inflammation rather than choked disc, as simple choked disc gives but an enlarged blind spot and vision may be normal.

It is needless to mention the value as far as a prognosis or a diagnosis is concerned of the fields in glaucoma. Indeed in chronic glaucoma, the field is the only truthful criterion of the exact status. The same view may be expressed, only with greater caution, in reference to sinus diseases and the usual field defects and blind spot enlargement accompanying them.

In optic neuritis, of which there are types:

(a) Diffuse interstitial.

(b) Papillo—macular.

(c) Perineuritis—we have distinct changes in color and form field designating the kind of



neuritis present—rather the anatomic portion or section of the nerve involved.

In optic nerve atrophy the same holds true as in optic neuritis.

In taking fields in optic atrophy cases we must bear in mind the following types of atrophy.

1. Primary.
2. Post neuritic or consecutive.
3. Secondary atrophy.
4. Retinitic or chorioiditic.

It can readily be seen from the anatomic construction of the nerve that each of the above may have a characteristic field of its own. There are scotomata—central, peripheral, relative or absolute; particularly red and green fields are early implicated.

Perimetry is of great value in the early stages of any disease implicating the optic tracts and primary optic centers as then the optic disc itself is very late in becoming involved by showing any atrophy. The same is usually incomplete and confined to one-half of the disc on the same side as the lesion when it does appear and this is usually long preceded by field changes.

Posterior occipital lobe and optic radiation involvement are characterized by amblyopia which gradually becomes hemianopic and homonymous, while color and form anopsias are symmetric but decidedly irregular in outline and formation.

Any affection of the visual path in the chiasm and posterior to it is often detected by:

Quadrant and hemianopic scotomata. These defects are spoken of as anopsias and are invariably bilateral, however, rarely but one eye is affected in chiasmal disease.

Anopsias are either:

- (a) Homonymous—right or left.
- (b) Heteronymous—temporal or nasal.

These anopsias may proceed from the periphery towards the center or begin at the center and spread toward periphery. In either instance the field will indicate which portion of the chiasm or tract is involved.

The above anopsias have a perpendicular line of separation. There may be a horizontal separation for the scotoma and then we speak of an altitudinal hemianopsia or a superior and inferior hemianopsia.

Any of these may be relative, absolute or negative—less often positive in character.

All homonymous hemianopsias are mostly due to lesions within the brain, optic centers or tracts

and cover a considerable area, hence often irregular and incomplete when first detected by the perimeter. Indeed, the more incomplete the more likely is the lesion central rather than in the tract or chiasm.

Color hemianopsias only are not often observed; when present they tend to substantiate the fact that there must be separate color centres in the brain.

Color hemianopsia without form disturbance points to lesions in the higher cerebral centres—about the cuneiform body or optic radiations—any other lesions than just here gives rise to a complete form of hemianopsia of color and form.

The following are the principal factors in hemianopsia—especially tract hemianopsia.

1. The tract only may be affected.
2. The form of the hemianopic field alone does not indicate tract disease.
3. Homonymous hemianopsia, combined with failing vision in one eye with a corresponding change in the retained half of the visual field, the disease has already spread to the chiasm.
4. Nasal hemianopsia in one eye with blindness or high amblyopia in the other eye, then there is disease in the tract on same side as the hemianopsia.
5. Hemianopic loss of vision in one eye soon followed by a like loss in the other eye, indicates a lesion very near the chiasm.
6. Bilateral, incomplete homonymous hemianopic defects point to tract disease situated centrally at some distance from chiasm.
7. Paresis or paralysis of one or more central nerves on one side, with homonymous visual halves on the other side of body, followed by or accompanied with hemiplegia or anesthesia on same side as hemianopsia, indicates a disease of the tract and often polyuria is associated with this condition.

8. Homonymous hemianopsia combined with hemianopic pupillary reaction points to tract involvement.

9. Slowly developing homonymous defects point to tract disease.

10. Sudden hemianopsia in an ordinarily healthy patient is often due to intra-cerebral hemorrhages or emboli.

11. Hemorrhages into the tract are mostly of a capillary type.

In the tract lesions we note the additional points:

(a) Bilateral homonymous hemianopsia may arise from the monocular type.

(b) The disease can attack the second tract after causing a homonymous hemianopsia in both eyes by affecting the first tract thus causing a duplex homonymous hemianopsia.

(c) The disease can spread from tract to chiasm—giving rise to temporal hemianopsias.

(d) The disease may spread from chiasm to tract. This gives first temporal hemianopsia followed by complete blindness in one eye. This train of symptoms cannot be separated from that which appears when the disease spreads to the optic nerve of one side or when the whole of one side of the chiasm is complicated.

Sufficient facts have been put forth—even though more or less heterogenetic—yet they conclusively prove that perimetry is a most decided aid in diagnosing certain lesions involving the visual apparatus and that our perimetry should be more carefully done in order to be better interpreted.

#### THE DETECTION OF MONOLATERAL MALINGERERS AND DEMONSTRATION OF INSTRUMENT.\*

CARL B. WAGNER, M. D.,  
CHICAGO.

Professor of Ophthalmology in Chicago Eye, Ear, Nose and Throat College; Clinical Professor of Ophthalmology, Loyola University, Chicago, Ill.

This instrument, I am about to present to you, is for the purpose of detecting monolateral malingerers of the auditory organs.

It is well known that these cases often present themselves to the profession for the purpose of blackmail, or avoidance of services, military or other.

Visual or auditory malingerers as a rule are of the monolateral type. The visual type are easily detected by various appliances and tests known to the profession, whereas, for the auditory malingerers, no exact and simple instrument has been devised to demonstrate and detect them with any reasonable amount of accuracy and assurance.

Patients who present themselves for such an examination, may be classed into three (3) types.

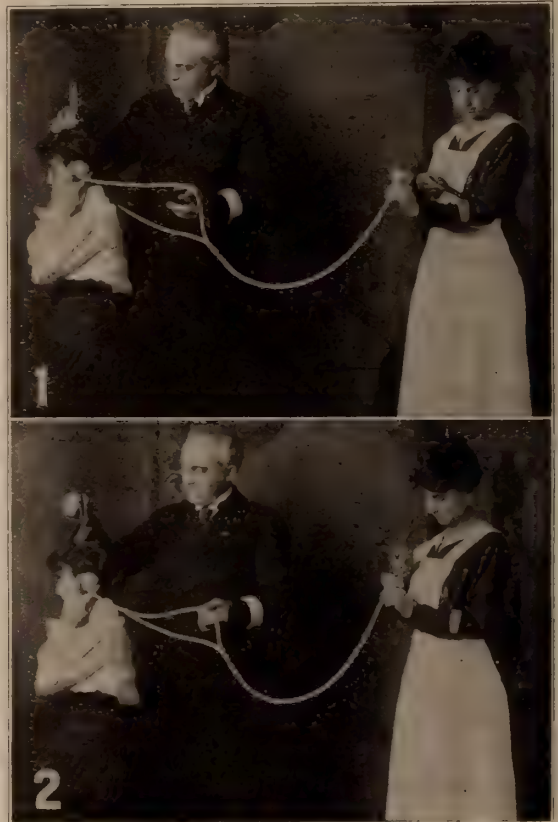
1. Monolateral hearing absent with or without objective findings due to the internal ear

or nerve and with other symptoms accompanying the lesion.

2. Monolateral hearing absent due to trauma to the auditory canal and middle ear.

3. Monolateral hearing absent due to an injury on the head, without any other accompanying symptoms or findings, except the history as given by the patient.

Particularly in the last instance the instru-



No. 1. Shows operator conducting sound waves by bone conduction to the internal ear with a C2 fork. The assistant is seen to strike a C2 fork, and is getting ready to send the sound waves through the instrument by air.

No. 2. Shows the conduction of sound waves by air by the assistant only. The tuning fork by the operator is still on the head of the patient, but held so that it is not vibrating. With the left hand the operator is seen to compress the tubule which goes to the good ear.

ment is of the greatest value in determining whether or not the patient be a malingerer.

*Description of the Instrument.*—For the purpose of description, it represents a funnel-shaped part, which receives the sound. This receiver is connected with a flexible tube, which again is connected with a Y-shaped metal tube. On each of these bifurcating ends another flexible tube is

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



attached, into the ends of which are inserted two funnels sufficiently large to cover the entire external ear. The length of the instrument being at least two (2) meters, in order to exclude the sound by air, external to the instrument.

*The Examination.*—The examiner places himself behind the patient and an assistant with the receiver in hand as far behind him as the instrument permits. The examiner has a C2 fork, which, when vibrating is placed on the mastoid portion of the hearing ear and bone-conduction exercised. Simultaneously, sounds with C2 fork are now transmitted through the instrument by the assistant which are synchronous, of those transmitted by bone-conduction, hence, very confusing to the one being examined. This is repeated two or three times, and the actual test follows. The C2 fork is placed on the head, without vibrating, the instrument only conducting the sound to the patient and the tube leading to the hearing ear is occluded. This may be accomplished by pressure with the fingers on the respective transmitting tube. If the patient still hears the sound, we have absolute proof of a malingerer.

The C2 fork heard by bone-conduction is, as a rule, about 20 to 30 seconds. So, also, is the sound heard through the instrument 30 to 40 seconds.

The bone-conduction test, of course, is to confuse the patient and make the test more complex, though, it can be carried out without this.

The shells covering the entire ears have been given the preference to ear pieces which are inserted into the canal, since the latter may be occluded on account of its tortuosity. If the patient hears at all, he can still hear the commands of the examiner, without removing the shells.

The C2 fork used for transmitting the sounds through the instrument should be held within the receiver, direct into the funnel and not at an angle.

Voice tests through the instrument have not proven satisfactory, since these sounds are capable of reaching the ears by air, outside the instrument.

The two funnels for the patient's ears are to be held so that the rubber tubes are not in a collapsed state, this may be done by holding the funnels in the palm of the hand, the rubber tube running over the dorsal portion of the hand between the middle and fore finger.

The instrument which I have described and presented to you is called "The Wagner Malinger Phone."

For the convenience of striking and manipulating the two tuning forks, I have used two circular rubber bands which clamp the fore arm. They are nothing more than a one-inch wide segment of the outer casing of an ordinary small sized automobile tire.

31 North State Street.

## HORSE HAIR SUTURE FOR THE RELIEF OF TENSION IN GLAUCOMA.\*

J. WHITEFIELD SMITH, B. Sc., M. D., LL. D.,  
F. A. C. S.,

BLOOMINGTON, ILLINOIS.

During the last few years I have entertained the idea that in the operation of aqueoplasty for glaucoma, or in operations for the relief of intraocular tension by the use of a seton, that a horse hair suture might be used with satisfactory results.

Mr. Arthur Zorab of Southampton, England, and, indeed, all of the ophthalmic surgeons, so far as I know, have used sutures other than horse hair in these operations; most of them employing silk, and in some cases a fine silver wire or gold wire has been tried.

*Possible Advantages of Horse Hair Sutures.* In the first place, horse hair is an animal texture, and while we know from a surgical point of view that a horse hair suture is better borne by the skin than silk or metallic sutures, it is even probable that the tissues of the eye would tolerate a horse hair suture with less irritation or disturbance than a suture of vegetable fiber or metal composition.

Again, histologically, there is something of an analogy in the development of the skin and the eye, which makes the above reason all the more apparent. The epidermis or superficial epithelial layer of the skin is derived from the ectoderm; the deeper connective tissue layer is derived from the mesoderm. Likewise, the embryonic origin of the eye shows that the epithelium of the cornea and the adjacent scleral surface are derived from the ectoderm, while the other parts of the eye, such as the deeper structures of the cornea and sclera are developed from the mesoderm. Thus,

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

if the skin tissues will tolerate a horse hair suture better than a silk one, we might reasonably be led to consider, at least, the probable value of the horse hair suture in eye surgery.

Furthermore, when we examine a horse hair with the microscope, we observe that it is cylindrical in shape, and its surface is quite smooth, which readily adapts it to the use in question.

And, again, the horse hair suture is non-absorbable and will retain its relative size and position *in situ* when used as a seton for this purpose of drainage which is altogether desirable.

*Observation from Experiments.* My observation in experiments on the eyes of a rabbit is that the horse hair suture is as satisfactory in every respect as the silk thread, there being no marked reaction in either case. My experiments were made more particularly to observe the effect by way of comparison as to the manner in which the sutures would be borne or tolerated by the respective eyes. The sutures were introduced near the corneo-scleral margin, and passed through the aqueous chamber. The silk suture was left in the eye for a fortnight and the horse hair suture was not removed for one month. Repeated observations revealed the fact that the horse hair suture was tolerated in every way as well as the silk and retained its original position better.

*Method of Introducing the Horse Hair Suture for the Relief of Intraocular Tension.* At the present time we might consider all of the methods employed for the relief of intraocular tension by the use of a seton or a suture in the experimental stages; yet, during the last decade, the question has been given earnest consideration. A very simple method and one easily accomplished, which might be worthy of further thought and investigation in the use of the horse hair suture, is described as follows: Under the usual surgical precautions, take a sharp, round, straight needle, armed with a small horse hair suture; introduce the point of the needle at the external equatorial region of the eye ball, about six or eight millimeters from the corneo-scleral margin through the conjunctiva and episcleral tissues, passing the needle in the direction of the long axis of the globe to the limbus, thence through the aqueous chamber, making a counter puncture at the corneo-scleral margin on the opposite side, bringing the needle out. Then reintroduce the point of the needle at the place where it was

withdrawn, and follow along under the conjunctiva and episcleral connective tissues back from the limbus for a distance of six or eight millimeters, bringing the needle out with the end of the suture. Cut both ends of the suture close to the conjunctiva, placing the retained ends beneath the membranes. The suture should extend horizontally across the aqueous chamber in front of the iris, at a point about one-third of the distance from the circumference of the iris to its pupillary margin.

The advantage of the suture running back from the corneo-scleral margin for six or eight millimeters is that it establishes a path for drainage in the direction of the fascia bulbi (Tenon's capsule) toward the posterior lymph passages.

The retained ends of the suture on both the external and the internal side of the eye being buried beneath the conjunctiva relieves the eye from any irritation occasioned by the action of the eyelids; and also the suture being placed horizontally across the anterior chamber at about one-third of the distance from the attachment from the iris above to the upper pupillary margin, produces little disfigurement since the suture is on a parallel line with the margin of the upper lid when the eyes are opened and in their natural position.

*The Use of the Horse Hair Suture in Acute Glaucoma.* The object, of course, in the use of a suture or a seton in the treatment of glaucoma is to relieve the intraocular tension by establishing artificial drainage. In acute glaucoma, during the incubation or prodromal stage, or, indeed, during the "glaucomatous attack," the horse hair suture might be used for the relief of the pressure symptoms, while the excretory apparatus is still intact, and before the root of the iris is welded to the cornea.

---

#### COMMON FOCAL CENTERS OF METASTATIC INFECTIONS IN THE UPPER RESPIRATORY TRACT.\*

W. J. RIDEOUT, M. D.,  
FREEPORT, ILLINOIS.

When I was asked to present a paper at this meeting on "Common Focal Centers of Metastatic Infections of the Upper Respiratory Tract," I realized at once what a large subject I was ex-

---

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



pected to cover in a short paper and how impossible it would be to give it other than very superficial considerations. The fact that three symposiums were devoted to different phases of the subject at the last meeting of the Clinical Congress of Surgeons, indicates to some extent how vast the subject is and the important consideration it is receiving by many leading men.

The focal centers referred to naturally include the tonsils, teeth, nares, and accessory sinuses, which on account of their peculiar anatomical location, structure and function offer easy access to an enormous variety of bacteria through these corridors and vestibules of entrance into the human system. It has been said, and no doubt truthfully, that the upper respiratory tract, including the mouth, is probably the host at one time or another of almost every type of bacterial growth. The majority of these, however, are only temporary visitors, but some find more permanent lodging in one or more of the many recesses, caverns or crypts of affected teeth, tonsils, adenoids, nares or accessory sinuses and through metastatic wanderings affect other organs and tissues of the body, both near and far remote from the issues first invaded.

Some of these organisms are rather exclusive as to what part of the anatomy they invade. For example, the gonococcus has a selective affinity for the joints and tendon sheaths, the meningococcus for the meninges, the pneumococcus for the lungs, although any of these manifest their presence at times in other tissues.

The streptococci are not quite so definite in their selective affinity for certain tissues, although showing this tendency in their first invasion from a focal center to a considerable extent, as has been shown by the investigations of Rosenow<sup>1</sup>, Irons<sup>2</sup>, Brown<sup>3</sup>, Nadler<sup>4</sup>, and others. Rosenow's series of 48 intravenous injections of streptococci into rabbits in order to observe particularly their effect upon the iris, resulted in 28 cases of iritis, 5 of appendicitis, 8 of pericarditis, 12 of nephritis, and 19 of myositis. He also found that streptococci from the tonsils and appendix of patients having appendicitis produced appendicitis in rabbits, streptococci from patients suffering with arthritis produced joint lesions in rabbits, but this peculiar selective tendency was soon lost, even within a few days, and other tissues and organs were as likely to be invaded from similar procedures. I will not attempt to ex-

plain the theories that have been evolved for this peculiar change, or rather loss of selective activity on the part of these organisms, or what vital influence has been exerted upon the germ itself in undergoing this change, but that there is some change, transmutation or whatever we may be pleased to call it, is evidenced by the varying results obtained from the use of autogenous vaccines at different times during the course of a systemic infection. For example, an autogenous vaccine prepared from infective material from a tonsil early in the disease would in all probability give favorable results, but might have very little influence upon an arthritis or endocarditis resulting from the focal center from which the material used in the preparation of this vaccine was taken. In other words, the vaccine does not contain the peculiar antigen required to exert a positive influence upon the progeny of the streptococci which first entered the patient's anatomy by way of the tonsil.

Although the other focal centers named offer ample opportunities for systemic invasion by *tubercle bacilli*, the tonsillar crypts are exceedingly favorable channels for their entrance into the lymphatic system, producing tubercular adenitis and oftentimes further systemic infection. Cervical adenitis from other forms of bacterial infection of focal centers of the upper respiratory tract are common, and the location of the infected gland or glands may be of some diagnostic value in determining the focal center of infection. For instance, focal centers in the teeth may be represented by cervical glands anterior to the angle of the lower jaw, in the tonsils posterior to this angle, etc., the glands involved usually being in line with the lymphatic channels draining the region in which the focal point of infection is located.

Children are peculiarly susceptible to cervical adenitis. The sources of infection are many, and sometimes surprising. At the Children's Hospital connected with Harvard Medical College, during the year 1914, of the patients brought in on account of cervical adenitis over 50 per cent. were due to bovine tuberculosis, having gained entrance into the system from the milk supply through the tonsillar crypts.

Nichol<sup>5</sup> in 1896 reported 500 cases of cervical adenitis investigated in the Royal Hospital for Children, 300 of which were due to tubercular in-

fection, the remaining 200 to other forms of bacteria.

That the teeth and gingival processes are large factors in the production of systemic infection is evidenced by the many reports of investigators in this particular line, as well as by the clinical experience we all have had with patients we were unable to relieve or cure until aided by the dentist in eliminating the focal center of infection in or about the diseased tooth or gum.

In a report<sup>6</sup> following a recent investigation in the University of Minnesota Hospital it was stated that of the patients who were examined for various disorders, many sources of infection were traced to the teeth, that 68 per cent. of the artificially devitalized teeth had apical abscesses, and that of a total of 1,350 dead teeth from all causes 83 per cent had abscesses. Some of these offenders escape ordinary inspection and are only revealed by careful and painstaking effort on the part of the roentgenologist. Hartzell and Henrici<sup>7</sup> have records of 150 teeth, absolutely sound so far as the enamel was concerned, yet harboring infective germs in and about their root canals. It has been found by some of these investigators that the acute dental cases are usually of staphylococcic origin, with little or no systemic symptoms, and that it is the chronic abscess or pyorrheal pockets, in which the streptococci are found, and particularly the streptococcus viridans, which is the one usually responsible (whether located in teeth, tonsils, sinuses or other focal centers) for the long list of metastatic systemic infections, prominent among which are muscular and articular rheumatism, endo and peri-carditis, nephritis, thyroiditis, appendicitis, pleurisy, anemia, chlorosis, mental and nervous diseases, iridocyclitis, iritis, and many others. Dr. Buckmaster in his excellent paper has given many of these statistically.

In a series of investigations of the cause of arthritis by Cokenower, comprising 47 cases, 44 per cent. were found resulting from focal centers in the upper respiratory tract, 8 per cent. from centers in the thorax, 28 per cent. from centers in the abdominal cavity, and 20 per cent. from centers in the pelvic cavity.

Some unusual conditions of tonsillar origin have been proven by autopsy findings that seemed almost too remote to possibly come in this list. For instance, it is not uncommon to find extra dural abscess associated with sinus infection, but

Oscar Beck and H. Neuman<sup>8</sup> of Vienna both found cases of suppurative extra dural abscess a sequel of purulent tonsillitis, also one of cerebral abscess reported by Throckmorton<sup>9</sup> of similar origin.

What has been said of the teeth with reference to their healthy external appearance is also true of the tonsil. Many diseased tonsils in which focal centers of infection exist may show very little external evidence of their real condition but if pressure is made upon them with some instrument there will usually be some exudate of pus from one or more crypts, or some pocket between pillar and tonsil, which should be investigated. The size of the tonsil is no indication of condition from a bacterial point of view, as its hypertrophy may have been induced by an effort to resist invading bacteria, and some of the liveliest hotbeds of infection are found in tonsils so small and so submerged as to be easily overlooked by casual observation. Luschka's tonsil and lingual tonsils are not to be omitted from this category.

The accessory sinuses usually give some local symptoms when involved, such as localized pain or tenderness, discharges, etc. When these symptoms are indefinite or absent transillumination may aid in our search for a focal center, but an x-ray picture is frequently necessary to clear up our diagnosis in suspected cases.

Much has been said regarding the efficacy of vaccines, both autogenous and stock, in the treatment of these cases. For reasons previously stated regarding the changes taking place in some of the invading organisms after their entrance into the general system, much can not be hoped for from vaccines prepared from material obtained from focal centers from some of these types. Others may be more definite and possess the particular antigen required to prevent the systemic invasion of certain organisms and improve the defenses of the body. Stock vaccines may happen to contain the antigens of the peculiar strains required to be of similar service, but on the whole are very much of a hit and miss proposition.

Thorough removal of focal centers primarily involved naturally suggests itself as the treatment par excellence in all cases of systemic infection, and should be instituted as early as is possible in the course of the disease. It is not probable, however, that a systemic infection of some months' or years' duration will recover at once following



these radical measures, yet they offer the best and only means through which the patient may hope for a recovery that is in any degree permanent. Their early discovery and eradication before there is any systemic invasion would be the ideal plan of preventing a large per cent. of human suffering and unnecessarily early mortality. Although our present knowledge of this subject is somewhat meagre, yet enough is known through reports of investigators in these lines, as well as by the many clinical experiences we all have had, to cause us to look upon a diseased respiratory tract as a serious menace to the life and health of our patient. Something is being done in certain localities through the dental, medical and school nurse inspection of the mouths, nares and throats of school children. This is a means of education in this particular line that promises much to future generations, and the general public are even now beginning to demand more of both dentists and medical men in protecting them from preventable diseases. And this particular field of prevention of systemic infections from focal centers of the upper respiratory tract is a subject not only for the dentist or nose and throat specialist, but for the surgeon and general practitioner as well. I hope many of the interesting features of the subject which have been omitted in this paper will be brought out in the discussion.

## BIBLIOGRAPHY.

1. Rosenow: *Jour. of Infectious Diseases*, 1915, p. 403; *Jour. A. M. A.*, Dec. 5, 1914.
- 2, 3, 4. Irons, Brown, Nadler: *The Localization of Streptococci in the Eye*. Reprint *Jour. of Infectious Diseases*, Vol. 18, No. 3, March, 1916.
5. Nichol: *Glasgow Med. Jour.*, 1896.
6. Ulrich: *The Blind Dental Abscess*. *Jour. A. M. A.*, Nov. 6, 1915, p. 1619.
7. Hartzell and Henrici: *The Dental Path. Its Importance as an Avenue to Infection*. Reprint *Jour. of Surg., Gyn. & Obst.*, January.
8. Beck and Neuman: *Meningitis Suppurative Extra-Dural Abscess of the Posterior Fossa of the Skull After Purulent Tonsillitis*. *Annals of Otol., Rhin. & Laryn.*, March, 1915, p. 25.
9. Throckmorton: *Cerebral Abscess Probably Primarily Due to a Suppurative Tonsillitis*. *The Jour. of the Iowa State Med. Society*, October, 1915.

## DISCUSSION.

J. J. Grant, Freeport, Ill.

Dr. Grant stated that the respiratory and alimentary tract are the chief sources of systemic infection. The nares, the sinuses, the lymphoid tissues of the thorax, play an important part. Rosenow has shown us that change of environment will change the specific action of bacteria. This, he believes is one of the reasons why we have such poor results with autogenous vaccine.

Some men claim that endocarditis is more common following tonsillitis than is the general belief. They go so far as to say that many of our patients suffering

from the symptoms of the neuresthenic type, are really suffering from sub-acute endocarditis.

Appendicitis is not uncommon following these acute attacks of tonsillitis. This, I suppose, is due to a similarity of structure of the appendix and tonsil lymphoid tissue.

Dr. Rideout, in closing, said that much is being done at the present time toward improving these conditions, in the way of examining the throats of children, and probably future generations will be more free from these conditions. The public are all beginning to demand more careful and closer inspection of preventable diseases, and this character of disease is included.

## TREATMENT OF PENETRATING INJURIES TO THE EYEBALL.\*

HARRY W. WOODRUFF, M. D.,  
JOLIET, ILLINOIS.

There are manifest advantages in dealing with injuries of the eye, as a class, which are not possessed by many diseased conditions.

Certainly the etiology is not obscure. It is a rare exception, indeed, if there is any doubt in this respect. In the treatment also the indications are apt to be definite, and there is, therefore, little reason for hesitancy and delay, if one is thoroughly prepared to attend these cases.

The question of enucleating a severely injured eye is not often a perplexing one. If there is any doubt, a few days' delay will usually decide the immediate phase of the question.

There are also certain principles which have a general application in penetrating wounds: 1, Surgical cleanliness; 2, removal of foreign bodies; 3, proper closure of all wounds.

Surgical cleanliness, while most desirable, is often difficult to obtain for the damage may be done when the case presents itself. Fortunately, pus infection compared with the frequency of injuries, is the exception. This is due to the fact that the normal conjunctiva in the majority of cases contains no virulent pyogenic organisms.<sup>1</sup> Also the self-cleansing of the eye by the blinking of the lids and the flow of sterile tears is an important factor.<sup>2</sup>

For infection it requires, then, a diseased conjunctiva or lachrymal sac or an infected foreign body. Fortunately, again, flying foreign bodies on account of the heat generated by rapid motion through the air are more often sterile.

On the contrary, injuries with wire and other

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

non-retained objects frequently are infected and still more frequently apparently trivial injuries of the cornea which do not penetrate may give rise to the well known serpigenuous ulcer. Therefore, if a wound is apparently not already infected we treat the eye much as we would preliminary to the extraction of cataract.

The cleansing of the skin with soap and water and alcohol, the avoiding of all caustic or even irritating solutions and the simple but thorough flushing of the conjunctival sac with sterile saline solution is sufficient.

If the wound is already infected we can no longer consider these simple procedures especially if the infection is the virulent pneumococcus.

While we continue the cleansing process in order to wash away the pus and organisms we are more strenuous with them as well as with hot applications and most important the sub-capsular injections of the cyanide of mercury.<sup>3</sup> Vaccines and the pneumococcus serum of Römer,<sup>4</sup> if indicated, should be used. If the infection is confined to the cornea, iris or lens, success will at times reward our efforts. If, however, the vitreous is involved in the infective process failure is inevitable.

In fact, the infection is more and more serious according to its depth. I have repeatedly seen the anterior portions of the eye clear up, the hypopion disappear, only to discover that ominous greenish or grayish yellow deep reflex indicating abscess of the vitreous against which all therapeutics is unavailing. Panophthalmitis may be averted but the diminution of light perception and lowered tension and finally shrinking, warns the surgeon that for the protection of his patient, enucleation is the indicated procedure.

It is most desirable to remove all foreign bodies from the interior of the globe because the eye will only rarely tolerate their presence. Foreign bodies are well tolerated only in the lens space. I have had under my care two cases in which bits of copper have remained glistening in this situation without causing degeneration of the ball after many years. As there is no way of removing them except by the somewhat uncertain and hazardous method of grasping them with the forceps, they are best left alone.

Magnetic foreign bodies, thanks to the x-ray localization and the magnet, are removable. The problem is to remove them with the least damage to the eye. This is simple, only if they are in

the anterior portion of the eye. This being true, Haab and his followers attempt to draw the more deeply situated foreign bodies forward into the anterior chamber.

The objection to this method is the longer distance which must be traveled by the steel and the danger of injury to the ciliary body, lens, vitreous and iris.

The Haab method was justifiable before the Sweet localizer came into practical use. Now the majority of operators justly prefer to apply the magnet to a scleral incision over the site of the foreign body.

To present this phase of the subject more graphically I will relate my experience in three recent cases:

*Case 1.* Charles J., aged 29 years, consulted me February 3, 1916, with the following history. He had been drilling a piece of steel and the end of the opening being imperfect he attempted to complete it with a hammer and chisel.

The result was he was struck in the right eye with a small chip. He experienced very little discomfort. His vision was 6/6. There was a small corneal wound in the lower nasal quadrant, and a corresponding one in the iris. But the lens was uninjured. Anterior chamber normal. Tension normal.

The tip of the giant magnet was applied to the point of entrance without visible result. Attempt to secure an x-ray picture was made but the operator, Dr. Harwood, was not available. February 5, he secured a picture which did not satisfy him on account of defects in the plate. On the 6th a second picture was positive. February 7, Dr. Wells localized the steel in the ciliary body.

February 8, I attempted to draw it into the anterior chamber. This after repeated attempts was unsuccessful, although the iris bulged when the current was on. I made an iridectomy over the site of the iris movement and again applied the magnet. Much to my surprise the steel did not come although there was still the same movement. Thinking that this was due to the iridectomy not being peripheral enough I made a second more-peripheral incision and iridectomy. The steel still failed to let go of its attachment to the ciliary processes. I therefore, on February 10 (eight days after the injury), under chloroform, made a scleral incision back of the ciliary body, hoping to draw the steel backward. This was also unsuccessful. I therefore enlarged the incision with the scissors, towards the ciliary body. Magnet again unsuccessful. Incision again enlarged in the same direction, again unsuccessful. I now enlarged the incision at an angle. Still no result. I now enlarged it still more, but back into line with the first incision. This time the application of the magnet brought results.

I have given these details to show the delays and other trials and tribulations which may at-



tend these cases. Notwithstanding all the work on this eye, the lens remained clear, no reaction followed and the ultimate vision was 6/15 with correcting lens. The corneal incision being responsible for 1.50 of astigmatism. This would, of course, not have occurred; neither would the coloboma of the iris have been made if the scleral incision had been made in the first instance. The piece was too small to be weighed and to this fact is due the little damage to the eye and as well the great difficulty in removing it.

*Case 2.* Peter F., aged 17 years, referred by Dr. Wilcox February 6, 1916, threw a dynamite cap into a fire. It exploded and something struck his left eye. Anterior chamber was full of blood. After absorption it was determined that cornea, iris and lens were injured. X-ray localization by Dr. Wells indicated the presence of small particles of non-metallic substance. Naturally, no attempt was made to remove these, and, except for the traumatic cataract the eye is in good condition at this time.

*Case 3.* Ross L., aged 40 years, referred by Dr. Hill of Streator, March 24, 1916. While hammering on a piece of iron a week before was struck in the right eye. Small wound in cornea and iris and blood clots in the vitreous. X-ray localization by Dr. Wells showed the steel to be 17 m.m. back of the cornea. After injecting the conjunctiva with cocaine and adrenalin solution, a radical incision was made and the flaps retracted. Scleral incision with cataract knife and application of the magnet. The steel did not present in the wound, but anterior to it. Another incision was at once made immediately over this point and the steel at once extracted.

Dr. Hill reports a very satisfactory condition at this time.

I believe the following technique will most nearly fulfill the requirements in these cases. After obtaining a full and complete history, have an x-ray examination. If positive, have the foreign body localized. Cleanse the field as for a cataract operation. Anesthetise with 4 per cent. cocaine and make a subconjunctival injection of 2 per cent. cocaine with adrenalin over the site of the proposed incision. Measure the distance from the cornea back to location of the foreign body and also above or below, according to its position. If the field is fairly dry this can be marked by a little argyrol. Make a radial incision in the conjunctiva, retract with non-magnetic retractors or with sutures. Make small radial incision with the cataract knife and enlarge with scissors as necessary. Apply the magnet tip vertical to the opening. Do not disturb vitreous or ciliary body if it can be avoided. Resect any

of the ocular muscles if necessary. They can be reattached with little difficulty.

I have had one such experience with the superior rectus muscle after a piece of steel had been in the eye for two months.

Cocaine and adrenalin solution render the eye almost painless and bloodless, unless large blood vessels are severed. Hemorrhage is not only annoying but may cause further damage to the vitreous.

It is not wise to attempt to draw the steel from behind the iris after making a corneal incision on account of danger of iris detachment. Twice has this occurred in my experience. An iridectomy will usually obviate this danger.

Haab advises against the iridectomy and does an iridodialysis to permit the passage of the steel.<sup>5</sup>

Haab<sup>6</sup> also advises against the patient's lying down or his head being steadied by a chin rest so that he can readily move his head away from the magnet.

Large pieces of steel should not be drawn forward into the anterior chamber. The smaller the particle the less damage from this method; but the more difficulty in moving it.

The normal covering of the sclera being conjunctiva and underlying connective tissue the natural procedure is to depend on closure of scleral wounds by conjunctival flaps. On account of its loose attachment it does not always bring the edges of the scleral wound in accurate coaptation. Francis<sup>7</sup> has suggested a remedy for this by making an under-flap and an over-flap; thus placing some tension on the conjunctiva in order to hold the wound edges together. The only objection to buried flaps of epithelial tissue is the possibility of the development of cysts which may occur unless the flaps are restored to their normal situation within a reasonable time. This has twice occurred in my experience. Once in the McReynolds operation for pterygium and once in the closure of a very extensive corneal wound by a sliding conjunctival flap. The flap adhered to the wound and about six weeks afterward a large cyst developed. This case is under my care at the present time.

There are still several points which should be mentioned in the subject of treatment.

The injury to lens, whether to remove the swollen lens at once or to wait developments. Donovan's<sup>8</sup> advice is their early operation. The

handling of prolapse of the iris, whether to attempt to reduce the prolapse or to excise. Most operators I believe excise it. Gifford<sup>9</sup> warns against the use of the galvano-cautery for fear of sympathetic ophthalmia.

In conclusion, while recognizing the importance of prompt surgical interference when indicated, sufficient time should be given for the careful collection and weighing of all the available evidence and then, like the wise judge, decide and act.

#### BIBLIOGRAPHY.

1. Axenfeld: Bacteriology of the Eye, p. 42.
2. Axenfeld: Bacteriology of the Eye, p. 42.
3. Woodruff: Texas State Med. Jour., 1914.
4. Roemer: Textbook, II, 351.
5. Haab: Arch. of Ophthal., May, 1916.
6. Haab: Arch. of Ophthal., May, 1916.
7. Francis: Trans. of Ophth. Section A. M. A., 1913.
8. Donovan: Trans. of Ophth. Section, A. M. A., 1911.
9. Gifford: Trans. Ophth. Section, A. M. A., 1910.

### CIRCULAR PLASTIC OF EYE LID IN CICATRICAL ECTROPION.\*

E. F. SNYDACKER, M. D.,  
CHICAGO.

In remedying cicatricial ectropion by means of flaps, two general types of plastic are usually employed, either that of Frick or that of Dieffenbach.

We are all familiar with the tongue shaped flap of Frick from the temporal region, also with the quadrilateral method of Dieffenbach by means of which triangular defects, or defects that can be converted into triangular shape are remedied.

I have no confidence in grafts to repair defects of the eye lids which are extensive enough to produce ectropion. I have too often seen an immediate perfect result followed in six months or a year by hopeless recurrence of the trouble. I am confident that grafts, especially those of the eye lid which are exposed to secretion and constant movement, in time undergo degeneration so that the ultimate result is almost the same as if no graft had been used. I have, therefore, in cicatricial ectropion come to rely only on flaps.

During the past six years I have evolved a method which, so far as I can find, has been used by no one else and which I think meets certain contingencies better than the methods now in use.

The great difficulty with which the plastic

operator on the eye lid has to contend is subsequent shrinkage. To remedy a cicatricial ectropion it is not enough to bare the defect, dissect out adhesions and lay your flap into place; a redundancy of skin is necessary if we wish a good ultimate result. Why? Because in the methods now in use the shrinkage is always away from the eye ball. In other words, all shrinkage tends to a recurrence of the ectropion, and to meet this we must make our flaps too large. This has disagreeable drawbacks. It is difficult to do nice plastic work with a flap that is too large. If we are working on the upper lid, a flap that is too heavy produces a rather disagreeable ptosis. It is difficult to nicely approximate a redundant flap and we are, therefore, in more danger of losing part of our flap. If now it were possible to produce a flap where contraction would pull the lid toward the eye ball, instead of away from it, one of the most serious objections to the present methods would have been overcome.

In my so-called "circular plastic," I believe I have devised an operation which meets this contingency. I have employed the operation eight times and have found it simple and satisfactory. In two of these eight cases the eye ball has been removed and the operation was performed to enable the patient to wear a prothesis; for such conditions I believe the operation a very useful one.

In one of these cases, a beginning sympathetic ophthalmia, in which Dr. E. V. L. Brown saw the case in consultation with me, I performed this plastic at the time of enucleation and, although the patient had a pronounced ectropion and Dr. Brown thought we should have serious trouble wearing a glass eye, she has worn a prothesis for a number of years without the least trouble. The method briefly is as follows: Assuming ectropion to be in lower lid, incision beginning just within outer angle  $\frac{1}{2}$  centimeter below lid border and parallel with it; adhesion carefully dissected out. With a kerotome that part of upper lid about two or three m. m. above outer angle split into two layers, skin being loosened back as far as orbital fold, outer angle included; loosened skin at outer angle of upper lid forms the pedicle of the flap; tongue of the flap is formed by two parallel incisions, semicircular in shape, parallel as much as possible to lower lid

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



border. The flap is continuous in shape and contour with skin of upper lid; as much as possible where the scar tissue which is causing the ectropion extends beyond outer angle of lid, this must, of course, be included in the flap. I have never, however, experienced any trouble from this fact. The hair bulbs of the eye lashes at outer portion of upper lid are destroyed by cutting off with small curved scissors. The defect in lower lid is put on stretch by suturing edges of two lids together. The semicircular flap without distortion of pedicle is easily laid into defect and sutured into place. If an especially nice and snug approximation is desired, we can pass a double armed suture through the conjunctival surface, each needle passing out through the outer skin surface of the flap and is tied over small gauze roll, pressing the skin snugly against the underlying surface. The lids are kept sutured together, if possible, for several weeks.

In this operation I have tried to follow the lines of Nature. The orbicularis muscle is circular and continuous. I have made my flap follow the lines of the orbicularis. In Nature the upper and lower lids are continuous, being joined by a circular dermal muscle. Plastic operations on the lids have not, hitherto, observed that continuity; I have tried to follow it.

What shrinkage now takes place pulls the everted lid toward the eyeball, not, as hitherto, away from it. The defect made where the graft is taken can be covered, either by undermining surrounding skin and approximating; or, if desired, by Thiersch graft, because it is of no consequence if the graft over this defect shrinks or not, so far as the ectropion is concerned. The orbicularis, being a dermal muscle, many of the fibers of the muscle are transferred with the skin so that we have in reality a muscle as well as a skin plastic.

#### DISCUSSION.

Dr. Remmen thought that this operation had good points. The future will decide whether it is as good in practice as it seems to be in theory. He was afraid that possibly there might be a little over-effect. If that flap begins to break, it might close the eyes ultimately, and good judgment will have to be exercised.

Dr. Gradle had the pleasure of helping Dr. Snyder do the first case he had ever seen, yesterday, and it impressed him very much as being a new procedure and a very distinct addition to the operative repertoire. He thought we could all do this with ad-

vantage. It is not particularly difficult to do, provided we follow the rules laid out by Dr. Snyder. He thought it was a very valuable addition, and that we can be congratulated upon hearing the first public announcement of a new operation.

Dr. Suker also saw Dr. Snyder perform the operation yesterday, and in addition to that, had seen him perform the operation several years ago. It must be said that it certainly is an ideal method for the restoration of ectropion. It is anatomically sound, physically true and clinically correct. Therefore, the three essential factors in the establishment of the legitimacy of an operation hold true, which is not so for the majority of operations for the relief of ectropion.

He asked the doctor whether, in cases of ectropion and the loss of the tissue, it would not be advisable to raise that scar first by means of an incision and then transplant some fat, in order to get a base. It has been his experience that unless we have more or less of a sub-cellular tissue for these grafts to slide upon, they will not do as well. The fatty base graft prevents shrinking, and the more fat you can get there will obviate the tendency to shrink.

Dr. Woodruff said that there are cases of cicatricial ectropion in which there is no opportunity of getting a flap, on account of the extent of the destruction of skin. In such cases, it is absolutely necessary, if anything is done at all, to use a Thiersch graft. Dr. Barker, in doing this work at the infirmary, last fall, taught us some very valuable points, and the particular point is in the dressing of these cases afterwards; not allowing any pressure upon the graft; no gauze or cotton or any pressure whatever upon the graft. In other words, it is an open method of dressing. The graft is protected by a dam of gauze bandage, fastened with adhesive strips and then a sort of a covering of gauze laid over, so that the gauze dam is protected from dirt and there is no contact with any foreign substance.

Dr. Snyder (closing), said: First, what Dr. Remmen says is true, that you might over-correct. He didn't mention the chief objection. I neglected to state that there is an objection to this operation, which it is no more than fair to state, and that is that it destroys the outer angle of the eye. Of course, as a matter of fact, when the case is severe enough to employ such a method, we have a destruction anyway.

Of course, over-correction is never to be feared in any of these cicatricial cases. I don't think any of us who have had any operative experience in this line of cases fear over-correction because we never get it. Almost invariably, they turn around again. That has been our almost invariable experience.

That fat idea might be a very useful one. Where the adhesions extend down into the bone, and there have been adhesions upon the outer skin of the bone, I should think that a fat implant would add to the effect of the operation.

## THE DIAGNOSIS OF DISORDERS AFFECTING THE PERCEPTION ORGAN OF HEARING.\*

OTTO J. STEIN, M. D.,

CHICAGO.

By perception organ of hearing we have in mind that part of the auditory apparatus pertaining to the labyrinth, the auditory nerve and the auditory tract and centers in the brain.

In establishing a diagnosis we are confronted at the outset by a vast array of conditions that are factors in the presence of a disturbance in the hearing acuity. Little is known definitely as to the manner in which many of these causes operate so that in the presentation of the subject one is, *pari passu*, compelled to recite a list of names in which cause and effect are sadly mixed. Nevertheless, from a clinical standpoint one can scan with profit the following heterogeneous classification and evolve therefrom a fairly accurate working basis for a diagnosis.

In the average case presenting itself for examination a diagnosis is readily established from a few well known signs and symptoms but where greater obscurity presents itself or the exigencies of the case demand a more searching inquiry the following line of reasoning may be perused with profit.

Consider whether you are dealing with a case of:

- Malingering,
- Hysteria,
- Malformation,
- Congenital changes,
- Deaf mutism,
- Traumatism,
- Senility,
- Occupational disease (i. e. lead, arsenic, carbon dioxide, boilermaker, telephone, caisson, gunner, etc.).
- Toxicity: (a) Drugs (i. e., tobacco, alcohol, quinine, salicylates, salvarsan and its allies.)
- (b) Disease (i. e., cerebrospinal meningitis, rheumatism, mumps, typhoid, scarlet, influenza, diphtheria, pneumonia, osteomyelitis, syphilis, leukemia, diabetes, pernicious anemia, tuberculosis, arteriosclerosis, cretinism, smallpox, pertussis, malaria). Myxedema, general anemia, severe hemorrhage, great exhaustion and depression.
- Labyrinth Disease: (a) Primary (i. e., otosclerosis, traumatism, neuritis, neoplasm, etc.).

- (b) Secondary (i. e., chronic otitis media catarrhal, acute and chronic otitis media suppurative).

Disease of the Nervous System: (i.e., neoplasm, abscess, embolism, neuritis, hemorrhage, lues, in its various manifestations like endarteritis, gumma meningitis, tabes.)

It cannot be expected in a paper of this kind and on such an occasion where the time limit is so imperative that an analysis of each of these conditions be entered into. But it is essential to look them over in a general way and emphasize some of them in particular.

We must assume, for brevity's sake, that most of us are fairly secure in the knowledge of our ability to differentiate between conduction and perception disorders. Where such disturbances co-exist the difficulties are more manifest. In the neurotic and malingerer one may not feel secure in his opinion until a more thorough opportunity is given to observe the case.

It is peculiarly noteworthy that the cochlea alone may be affected and the symptoms arising therefrom, namely, tinnitus and deafness, are the only ones present and even the tinnitus may be absent. The cochlear branch of the auditory nerve seems to be selectively affected and often it is the only part involved, although more frequently the vestibular branches are also implicated, causing thereby symptoms of vertigo, incoordination and nystagmus. Under certain circumstances like those resulting from traumatism or suppuration, the vestibular part of the labyrinth alone may be affected, the patient indicating no involvement of hearing. In some of the slowly forming chronic cases the slight or entire absence of vestibular symptoms that may be or have been present can easily be overlooked if not diligently sought for; while in more active or acute cases these associated symptoms are readily detected.

In central lesions the hearing may be impaired if peripheral to the point of decussation of the auditory nerve in the medulla; while a lesion in the auditory center of the cerebrum would rarely have effect on this function owing to the decussation of the fibers below. If the lesion should occur at the point of decussation in the floor of the 4th ventricle then complete deafness might result. The associated involvement of other cranial nerves is of greatest diagnostic value.

The subject as it presents itself in its practical application is somewhat as follows: The patient is carefully scrutinized and after a few words of

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



introduction can readily be classified in one of several groups. In the *first* group one can place the cases of pseudo deafness like the malingerer and hysteric. In the *second* group one can consider the defectives, like malformations, congenital changes and some of the deaf-mutes. In the *third* group may be placed those causes due to violence or trauma. In the *fourth* group consideration is given to that very large variety of conditions due in the main to acute or chronic structural changes within the ear brought about either primarily or secondarily. In the *fifth* group can be placed those cases of severe degree of deafness occurring suddenly.

*First Group.* The hysterical cases are usually of deafness alone, that is to say, not attended with tinnitus or vertiginous symptoms. In this class of cases they often complain of pronounced deafness occurring suddenly in some cases following an injury, but the deafness may just as suddenly change from one ear to another, seemingly without any cause. In the hysteria cases other associated signs are usually present, like anesthesia, hyperesthesia, paresthesia, various paralysis and at times color hearing; that is to say, the patient has a sensation of color on hearing certain tones.

The malingerers require alertness on the part of the physician to detect and in these days of legislative activity and "easy money" methods at law one's diagnostic acumen must ever be on the lookout. Several tests may be used to reveal the dissembling. The stethoscope can be employed by placing the ends in the patient's ears and the handle of a vibrating fork lightly applied to the tube leading to the ear complained of. The voice may also be used by whispering in the bell of the instrument and pinching the tube leading to the healthy ear. When the Weber test is used in such cases the patient usually states that closing the canal of the healthy ear causes the sound to disappear. A normal ear tightly plugged will hear a loud watch two feet, but a patient feigning declares he does not hear the sound at all if held in front of open canal on the side complained of.

*Second Group.* In malformations and congenital defects where all or part of the labyrinth may be functionally absent the associated deaf-mutism or the history of a lifelong trouble are aids in the diagnosis.

*Third Group.* In the traumatic cases the diagnosis has to take into consideration whether the

injury is an old or recent one. In recent lesions Ruttin describes three types; first, fracture with hemorrhage causing symptoms like diffuse suppurative labyrinthitis; second, symptoms similar to serious labyrinthitis, namely, the same as in the first, but with the addition of some hearing and reaction; third, symptoms of tinnitus and partial deafness with vertigo and nystagmus that is temporary disappearing in about 24 hours. This type usually results from concussion. In the fracture cases the history of the escape of spinal fluid and blood from the canal and nose, loss of consciousness and facial paralysis will assist in the diagnosis.

*Fourth Group.* In some cases of suppurative origin symptoms like tinnitus, nystagmus and vertigo may have been present and then perhaps only of a slight degree and finally passing away so that unless the history is probed very carefully these important links in the chain may escape notice and the diagnosis suffer.

*Fifth Group.* In the cases of profound deafness coming on rather suddenly the lesion is usually found in the labyrinth and results from either hemorrhage, anemia, congestion, embolism or neuritis, and the commonest causes among the diseases are syphilis, arteriosclerosis and some of the acute febrile affections.

In analyzing the symptom of deafness the first thought is what *degree* of hearing is lost, and if one or both sides. The second thought is what was the character of the *onset*, gradual or sudden, complete or partial. Third, what are the *associated signs and symptoms*?

In making an estimate of the degree of impairment of hearing one is aided by the volume and distinctness of the voice necessary in making one's self understood as well as by the attitude and expression of the patient. The crux of all tests for hearing is undoubtedly the conversational voice. But for the purpose of measuring in an exact way the hearing that is present and for determining the variety of the disorder causing the impaired hearing and as a matter of study and keeping record it is essential to make use of the various means for making functional tests. If inspection of the aural canal and nasopharynx reveals neither cerumen, tumor, tumefaction or destruction as the cause, then it is necessary to measure the amount of hearing present by using the voice, the forks and whistles.

In conducting these tests, remember there are

three varieties of otosclerosis; the first where the bone changes are limited to the oval window causing ankylosis of the stapes; second, ankylosis and changes in the cochlear spiral, and third, cochlear spiral involvement only.

In otosclerosis the Weber test is lateralized to the worst ear. Rinné is usually negative with small "a" fork (64 d. v.), but may be positive but then shortened. Schwabach is prolonged unless it is third variety, then, like in nerve involvement, it is lessened or even absent.

Gelle is negative, due to ankylosis.

L. T. L. elevated.

U. T. L. lowered in the second and third varieties, at least in certain areas, constituting the so-called "island deafness."

The drum is normal and the tube patent, Paracusis Willisii pronounced.

These tests correspond to the findings present in O. M. C. C. excepting, perhaps, Gelle, which is positive, providing the stapes is not ankylosed. The diagnosis between these two diseases is made from the age, the effects of the weather, "colds" and noises, on the hearing, appearance of the drum, condition of the tube before and after inflation and the contributing causes.

In nerve deafness the tests enumerated are reversed from those found in otosclerosis and O. M. C. C. with slight variations. A vibrating fork on the mastoid of the affected side is usually referred to the healthy side, especially if the canal of that side is plugged. Hearing is worse in a noise.

A defective hearing that is improved by extraneous noises (paracusis Willisii) suggests fixation of the ossicular chain, particularly the stapes. If the hearing is made worse by such noises it suggests perception disorder. Pitch deafness may exist; that is to say, hearing a note at a different pitch than the one sounded. A deafness associated with diplacusis suggests neuritis. This diplacusis may be one where the pitch differs in either ear (dysharmonica), or the sound may be heard simultaneously. There is another variety spoken of by Gradenigo as monaurilis, where two tones of different pitch are heard in one ear. The speech of a deaf person may be strikingly loud or soft according to the integrity of their bone conduction, which is significant of a labyrinth disorder in the former and of a conduction trouble in the latter. Hallucinations as to various sounds, like the playing of music, singing of birds and noises of animals are sug-

gestive of a mental disturbance. In employing the whisper test select words and numerals of sibilant sound like 6, 60, 66, 30, sister, ice, that will disclose the perception deafness as the low pitched tones like 5, 10, 100, Robert, doctor, are readily heard; for in-perception disease the high tones are the ones impaired first, the U. T. L. is lowered and the bone conduction is reduced, except in otosclerosis with ankylosis. After fifty years of age bone conduction is often reduced. The use of the large "A" and small "a" forks in addition to the regular Hartman set, Edelman whistle and the monachord are necessary in making a differential diagnosis in difficult cases.

In studying the character of the onset we know that a deafness, either of mild or extreme degree, with gradual onset and progressive, extending over a period of a year or more and with no demonstrable cause, is suggestive of either a chronic catarrhal otitis, otosclerosis or certain types of neuritis. A deafness of rapid onset or even sudden occurrence with or without other symptoms suggests cerumen or labyrinth disease. Of the labyrinth disorders several causes must be considered. When an immediate deafness occurs accompanied by severe tinnitus, nausea and vertigo, often causing the patient to fall, although rarely losing consciousness, we have a syndrome of symptoms known as Meniere's symptom complex. In this condition there is a disturbance of the normal poise of the entire labyrinth, the vestibular portion is irritated and the hearing portion disqualified. Such labyrinth conditions may result from hemorrhage or embolism of the internal auditory artery or from its vestibular or cochlear branches separately. The underlying causes are usually acute fevers, lues, leukemia, pernicious anemia and acute nephritis. An aneurysm of the basilar artery, from which the auditory artery arises, must also be considered. Where the onset is not quite so sudden at the same time recent and very severe in degree, the possibility of a polyneuritis of the acoustic nerve due to some toxic cause must receive attention. In other cases of still slower onset but of progressive deafness one must not neglect to consider degenerative changes of the acoustic from pressure exerted by bone changes, as in otosclerosis and periosteal thickening from lues at the internal meatus.

A deafness in a mild degree coming on rather suddenly preceded usually by a fine ringing tin-



nitus and accompanied by a feeling of "fullness" about the ear and frequently autophonia is due most likely to some form of tubal obstruction.

In suspected syphilitic cases a Wassermann test of the blood should be made, and if found negative a spinal puncture with examination of the fluid should follow. As recent investigations by Finger, Altmann and Dreyfus, et al., have shown that any case of syphilis may involve the central nervous system, affections of the perception apparatus may be looked for in the early as well as the late stages of this disease.

It is difficult to consider this subject thoroughly unless reference is made to the static ear and the conduction apparatus. In looking for *associated signs and symptoms* arising from the static ear and brain centers, such as head and ear noises, pain and its various modifications, nausea, vomiting, vertigo and nystagmus, we should take occasion to test the stability of the static labyrinth and its associated centers by first noting the presence or absence of spontaneous eye and head nystagmus, corporal stability and normal pointing and then by the employment of such tests as the fistula, caloric, electric and turning, determine their degree.

An individual with normal static apparatus responds to certain well known tests causing vertigo, incoordination and nystagmus. The nystagmus of vestibular origin is jerky and is made up of a slow and a rapid movement of both eyes and differs from the oscillating nystagmus that is essentially optical in origin. The direction of the nystagmus is determined from the side of the rapid movement. The slow movement is produced by the vestibular (peripheral) reflex, sending the eye balls in one direction and their return to the normal position is the rapid movement (central). For instance, turning the head to the right (being the stimulus) sets the endolymph flowing, which stimulus in turn is imparted to the ampullary hairs in the horizontal canal. In the right horizontal canal the lymph is displaced towards the ampulla (always the maximum stimulation in the horizontal canal) while in the left horizontal canal the lymph is displaced away from the ampulla, hence causing the lesser stimulation. The increased right side stimulation causes contraction of the right abductors and left adductors of the eyes, the left labyrinth given the lesser stimulation to opposites, and thus there results slow movement of eyes to the left followed

by a rapid voluntary return to the opposite side, hence horizontal nystagmus to the right. Stop the turning suddenly and the lymph current is reversed and there results an after nystagmus to the left. If nystagmus is induced by sudden and extreme turning of the eyes to the side it is indicative of irritation either in the labyrinth or cerebellum. The irritation is in the labyrinth if the nystagmus occurs while looking towards the healthy side and in the cerebellum when turning towards the affected side. Nystagmus is of three degrees, namely, to one side only, to one side and to the front, and to both sides and the front. The amplitude should be noted.

*Compression and exhaustion* of the air in the external ear canal (known as the fistula test) has no effect of irritation normally. Occasionally a piece of hardened cerumen or a foreign body pressing on the ear drum causes dizziness. In the presence of a suppuration irritation of the labyrinth may be elicited by this test when erosion of the walls has occurred. This was established as the result of Ewald's experiments, who showed that whenever the cupola was moved by compression it was pushed or compressed away from the canal, causing a nystagmus to the opposite side, while suction caused a reversal to the same side. Touching the eroded area with a probe will cause vertigo and nystagmus and even the forcible blowing of the nose as shown in a case presented by Dr. John R. Fletcher.

Sudden and extreme *thermic changes* of the labyrinth fluid causes it to expand or contract. For this test water is used in a syringe or irrigator. To get the best effect the fluid should come in contact with the sensitive labyrinth wall, the most exposed parts being the anterior part of the horizontal canal and the ampullar end of the anterior vertical canal. This is permissible in a discharging ear but in a dry perforation it may be the cause of re-establishing the discharge. In such cases air may be used in testing. If the ear is syringed with cold water, head erect, the fluid in the anterior vertical canal contracts and flows towards the utricle causing a rotary nystagmus of the eyes to the opposite side and simultaneously a horizontal nystagmus results from a current towards the ampulla of the horizontal canal. Using hot water in place of cold causes a rotary and horizontal nystagmus to the same side. Water of body temperature causes no nystagmus.

Neither would nystagmus result if the canals were destroyed or absent.

Placing an individual in a revolving chair, with head erect and eyes looking forward, and *rotating* him steadily and regularly and fairly rapidly ten times produces a horizontal (primary) nystagmus to the same side as the direction of rotation for thirty to fifty seconds, if observed while still rotating or upon very gradual stopping. It can also be felt by the observer's fingers on the closed lids of the patient. Should the rotation be stopped suddenly then the nystagmus is directed to the opposite side (after nystagmus). If the head while rotating be held sideways forty-five degrees oblique nystagmus results; if held sideways ninety degrees (posterior vertical canal) vestical nystagmus results; if held well forward (anterior vertical canal) a rotary nystagmus to the opposite side results, and if held backward a rotary nystagmus to the opposite side results. The nystagmus in all instances is augmented with the eyes directed towards the side of rapid movement.

In the *pointing test* the arms, hands and fingers are used. The patient's ability is first tested before syringing or turning. Standing with eyes closed, he may by a free hanging and swinging motion of the arm try to touch the observer's finger or his own nose or finger of the opposite hand. After syringing or turning, with eyes closed the arms one at a time are brought from the hanging position up and forward in the median line to touch the observer's finger, any deviation is noted. After syringing with cold water the left ear pointing is to left; with hot water the reverse. Movements from the elbows and wrist may also be tried. On standing he falls to same side.

The *electric tests* are made with the galvanic current. This test differs somewhat from the others just mentioned in that the current acts directly on the nerve itself, while in the other tests the reaction results first through changes in the lymph current. In applying the test the cathode (negative) electrode is applied to the tragus and the anode indifferent, patient looking straight forward. A current of about four M. A. causes in a normal ear rotary nystagmus towards cathode on closing circuit and to opposite side on opening circuit. If the ear is irritable from disease one or two M. A. suffice, provided the

nerve is not destroyed. If more current is necessary the nerve is likely destroyed.

Ruttin's classification of nystagmus is convenient to use in diagnosing disease of the labyrinth and is as follows:

**Circumscribed serous labyrinthitis:**

- Nystagmus is horizontal and rotary to opposite side and also same side.
- Fistula reaction present.
- Caloric reaction present.
- Hearing present.
- History of labyrinth symptoms.
- Turning reaction present.

**Diffuse serous labyrinthitis:**

- Third degree nystagmus to opposite side and occasionally the same side.
- Caloric reaction usually present.
- Fistula reaction usually absent.
- Hearing impaired.
- No history of labyrinth symptoms.

**Acute purulent diffuse labyrinthitis:**

- Third degree nystagmus to opposite side, continuous for two days both on lying down and standing.
- Fistula reaction absent.
- Caloric reaction absent.
- Hearing absent.
- No history of labyrinth symptoms.

**Chronic purulent diffuse labyrinthitis:**

- No spontaneous nystagmus but may sometimes be induced.
- All tests absent.
- History of labyrinth symptoms.

Dr. Holinger referred to Dr. Stein's systematization of the different causes as for the purpose of teaching, and suggested that it is much more important to systematize in those cases where you can do something than in those where you are more or less powerless and helpless.

One of these groups, the first group; pseudo deafness, you all know what you can do, and in hysterical deafness and the similar forms, it is a question of the nerves, just as well as of the local treatment. Defectives are hardly ever amenable. In the traumatic cases, it is a question of the real traumatism. In the fourth group, the acute and chronic inflammatory changes are very often amenable. The fifth group is profound and certain deafness. The writer did not note the very large group, the most important and the most grateful to treatment, himself, the group of deafness due to different poisons; poisons produced by the organisms as well as introduced into the organism from the outside; for example the deafness produced through a siege of typhoid fever—post typhoid deafness, post diphtheric deafness, and so forth; deafness by infectious diseases. Some of these you cannot do much for, but, on the other hand, there is quite a number of them where you can do considerable, and they are almost all of the nervous type. Furthermore, the cases of deafness due to poison introduced from the outside, like quinine, salicylic acid—we know now



that in smoking, nicotin carries a great influence on the nerves. In those cases we are almost powerless. And the last group is hard hearing due to old age.

He would add as a sixth group, the deafness due to the different forms of poison, and a seventh, deafness due to old age.

Dr. Gradle noted that up to a few years ago, twenty-three cases had been reported of deafness that occurred with reference to sympathetic ophthalmia—cases of complete deafness of the labyrinthian type, developing through the course of a sympathetic ophthalmia. The cause of it is still only in the theoretic stage. Fortunately it is a rather rare case, but it is of sufficient interest to warrant further study and any cases that can be found should be reported, in order to obtain some valuable statistics.

Dr. Stein thought the objection offered by Dr. Holinger might be met by replying that the cause of the first class of cases he mentioned, is covered among the list of causations. This subject might be divided into a great many more groups, but the idea in teaching is, of course, to condense things as much as possible.

The type of deafness mentioned by Dr. Gradle, of course, is not really covered in this, but he thinks it might be brought under one of these groups.

---

## THE VALUE OF THE SKIAGRAPH IN THE DIAGNOSIS OF MASTOID DISEASE.\*

GEO. E. SHAMBAUGH, M. D.,  
CHICAGO.

The diagnosis of pathological changes going on in the mastoid process presents difficulties peculiar to such bony cavities. An intelligent analysis of the subjective symptoms and a careful interpretation of the data observed in the examination of these cases very often leave little doubt regarding the pathological changes going on in the mastoid process. On the other hand, there are cases where, after all such data have been carefully examined, there will still remain a doubt as regards the character and extent of these pathological changes. It is in these latter cases that the skiagraph may prove of great assistance. When we remember that in mastoid disease, just as in disease of the nasal accessory sinuses, the conclusions reached by other methods of examination are often so accurate as to make the use of the skiagraph superfluous, it becomes evident at once that we should have a clear idea, first, as regards the cases of mastoid disease where we can reasonably expect some assistance from the

use of the skiagraph and, second, as regards the value of the skiagraph in these cases.

As regards the cases where the skiagraph may be of assistance: This is restricted for the most part to the cases of mastoiditis occurring as a complication of acute otitis media. In chronic mastoid disease the skiagraph gives very little data that can assist in deciding the important question whether the disease is one which should be treated by local measures or whether surgical measures should be employed. Fortunately, a careful examination of the clinical evidence leaves little room for doubt, in most instances, regarding this important question. Surgical interference is restricted now to those cases where there is a distinct element of danger of a serious complication resulting from the disease. It is only in cases where the disease process is invading the bone that we need fear such complications. The presence of a bone-invading process, whether from a cholesteatoma or caries, can, as a rule, be readily diagnosed by a careful examination of the case. As a matter of fact, it is only the exceptional case of chronic purulent otitis media which requires surgical interference, since most of the cases are not dangerous and require, therefore, only local measures. In the chronic cases, the skiagraph is not only superfluous but when employed can hardly be expected to give any information that can assist in diagnosing the character and extent of the process invading the bone. The reason for this becomes clear when we remember that the data received from the examination of the skiagraph have to do chiefly with the changes in the pneumatic type of process. In cases of chronic purulent otitis media where we might wish for assistance from the skiagraph the pneumatic character of the process is absent, either as the result of changes brought about by the chronic inflammatory disease, or because the onset of the otitis media in early life has prevented the normal pneumatization of the process from developing.

The situation is quite different in regard to the diagnosis of mastoid disease complicating acute otitis media. Here we are not infrequently left in doubt, from other methods of examination, regarding the character of the changes in the mastoid, and it is in just these cases where the skiagraph may be of great value. We should, however, not lose sight of the fact that in most

---

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

of the cases of mastoid disease complicating acute otitis media other methods of examination leave very little for the skiagraph to add and that the general use of the skiagraph in all cases is quite unnecessary. It is important, for these reasons, that we should know when the assistance of the skiagraph should be called for. There are two classes of cases where this may be of assistance: First are the cases where there is no external evidence of mastoiditis and, second, the cases where external evidence of mastoiditis is present but where we are left in doubt as to the character of the pathological changes in the mastoid. As regards the cases where no external evidence of mastoiditis is present, it is not at all uncommon for a mastoid abscess to develop with extensive softening of the bone, leading eventually to an intracranial complication without any changes on the outer surface of the mastoid, and where there is not even tenderness on pressure. In such cases the presence of the mastoid abscess can be suspected from the continuation of a profuse purulent discharge longer than three or four weeks, the presence of a rise of temperature, even though this be slight, and the persistence of headache, usually restricted to one side. In these cases the skiagraph usually gives very definite information of abscess formation, where the bony partitions between the pneumatic processes have melted away, and thus allows one to proceed with the mastoid operation without further dangerous delay.

When we come to the second class of cases, those where external evidence of mastoiditis is present, but where the diagnosis of an abscess or softening of the bone is not readily made by other methods of examination, the skiagraph again is of great value. Clinical evidence of mastoiditis is present in the majority of cases of acute otitis media. This evidence consists of pain over the mastoid, associated, as a rule, with tenderness on pressure and even with some edema. It is, however, a well-known clinical fact that the great majority of cases showing such evidence of acute mastoiditis recover spontaneously and that it is rather the exceptional case, even with these symptoms, that goes on to the formation of an abscess requiring a mastoid operation.

I am inclined to believe that there is probably no other place in our specialty where the treatment is so frequently bungled as in just these cases of frank mastoiditis complicating acute

otitis media. With the possible exception of unnecessary operations in cases of chronic purulent otitis media, there are, I believe, more unnecessary operations for these cases of acute mastoiditis than in any other field of our work. The classical rule laid down by Schwartze in regard to the management of these cases is as applicable today as when first made, and yet from what I have seen and from what I have heard in discussions, I am convinced that this rule has been forgotten by many otologists. The rule is that, barring unusual symptoms, cases of acute otitis media presenting the evidences of mastoiditis pointed out above, do not require operation unless the stormy mastoid symptoms continue unabated under rational treatment for a period longer than eight days after the free drainage of the otitis media has been established. How often have we seen such cases recommended for operation when the mastoid symptoms have been present only three or four days! The operator on opening the mastoid is too apt to conclude when he discovers free pus in the cells that the operation was justified, whereas free pus is not in itself an evidence that the operation was necessary. It is rather the evidence of softened bone or the presence of an abscess cavity that justifies the operative interference in these cases. It is this information that the skiagraph is often able to give us, very often before the existence of such change can be determined positively from the clinical evidence in the case. The transillumination of the mastoid as a means of diagnosis falls far behind the value of the skiagraph. The former may show the presence of a mastoiditis, but it does not help us differentiate between the cases which may go on to spontaneous recovery and those where the changes in the bone already preclude such a possibility. The skiagraph shows distinctly the presence of a mastoiditis, but what is of greater value, it will also very often give positive evidence of softened bone or abscess formation. (Skiagraphs were exhibited showing both these conditions.)

#### SUMMARY OF CONCLUSIONS.

1. The skiagraph has a definite value in the diagnosis of mastoid disease.

2. It is rarely of any assistance in chronic cases in differentiating between those which call



for local treatment and those which require surgical measures.

3. Its great value is in acute cases, not only in showing the presence of abscess formation in cases where no external evidence of mastoiditis is present, but in differentiating in the cases showing mastoid trouble between those where the reaction may recover spontaneously and those where a softening of the bone calls for a mastoid operation.

#### DISCUSSION.

Dr. Pollock commended Dr. Shambaugh's conservatism in the radical cases and also in some of the acute cases. He had been much elated over some of the good results that have been attained by local treatment in these supposedly bad cases.

One of the advantages of taking a mastoid picture is the comparison of the two sides.

The mastoids in individuals are almost alike, but in the other sinuses, for instance, the sphenoid, there is a great variation.

He takes a skiagraph in all cases, unless there is a big bulging ready to burst before the patient gets to the hospital.

One patient, seventy-one years old, with an acute mastoid, and labyrinth irritation, with a history of mastoid discharge ten years previous, he treated locally and now, after five months, the ear is entirely healthy; no more discharge, and the labyrinth irritation symptoms have disappeared, and the hearing is normal.

Dr. Stein asked whether Dr. Shambaugh had observed, in his skiagraphic work on the mastoid, and could tell when complications were present, especially whether those cells that are hidden below the hypotympanum, just below the region of the tympanic cells, were diseased.

Dr. Williams inquired about taking a skiagraph of both mastoids on one plate. He had always been accustomed to do that and found it a very convenient way of comparing the mastoids on a single plate.

In one case of apparent primary mastoid with a slight temperature lasting for about three or four weeks, some tenderness over the mastoid which didn't clear up, he took a skiagraph and found one mastoid very cloudy, with the cells broken down, apparently, in the picture, and on the strength of that and on the strength of the radiographer's diagnosis, opened the mastoid and found it perfectly normal. It got completely well in five or six weeks, which would indicate that there was not any pus in the mastoid, although the picture certainly showed it.

Dr. Kavanaugh emphasized the importance of having the plate taken by somebody who knows how and read by one who understands it.

Dr. J. C. Beck, the chairman, was surprised that Dr. Shambaugh and Dr. Pollock both neglected one of the most important and valuable features of x-ray work, because they did not note its value in chronic

suppurative conditions, as to the pathology. He can show pictures, x-ray pictures and stereoscopic pictures in chronic suppurative conditions where he can outline certain definite pathological changes differing one from the other.

He advocates taking the picture, operating and later studying the picture, which will give a surprising amount of valuable information.

Dr. Shambaugh, as to the recognition of those tympanic cells that divide from the floor of the tympanum in an x-ray plate, had no doubt at all that a well-taken plate would show a cell there, but whether it would differentiate between a cell of that kind that was infected and one that was not, he would not say.

One case where there was a complication where he had a chance to make a plate, is a case of sinus thrombosis, and he did not recognize from the plate the existence of the thrombus after the operation.

In regard to making a plate of both mastoids at once, he advised the method to which one is accustomed.

In regard to the question that Dr. Beck has raised about the value of the stereopticon, at one hospital they made the stereopticon view, and the opinion of the men who have had this experience is that there was practically no difference in the value of the picture they were able to get from one plate or the other. The important question is whether you have a type that requires operation or whether it does not require operation. That fact can be ascertained by the clinical observation, without the use of the x-ray, almost without exception. That the x-ray will show you if there is extensive disease of some type or other may be true, but you get your information that you need for an operation from the clinical examination of the case.

#### TREATMENT OF CHRONIC CONSTRICTION OF THE EUSTACHIAN TUBES.\*

ALEXANDER S. ROCHESTER, M. D.,  
CHICAGO.

The procedure which I am about to describe has been found by me to be of particular value in those cases of chronic middle ear catarrh which are benefited by Eustachian catheterization, but which, in spite of a practically normal condition of the nares, always lose the beneficial effects of the inflation in from a few hours to several days.

The operation is not to be recommended if there are any gross lesions existing in the nose, such as greatly enlarged posterior ends of the inferior turbinates, adenoids, a badly deflected septum, or any anatomical disarrangement which does not give the proper breathing space. Any such condi-

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

tion occurring in a case of chronic constriction of the Eustachian tubes should, of course, first be given the proper operative attention by the physician before thinking of applying this treatment. The use of the actual cautery in the post-nasal space has, contrary to expectations, been found by me to be attended by very little reaction. Not once have I had the slightest unpleasant complication in either of the five cases in which it has been used.

Allow me to state at this time that the galvano-cautery has, with every year of its use in my hands, more firmly established itself as a most valuable instrument, which, when used carefully, moderately and judiciously in the practice of rhino-laryngology, is found to give no unpleasant results and to render a very great service. It has been much condemned by many in the past, but this condemnation I feel sure must have usually been engendered by the contemplation of some unhappy results brought about by the improper and too generous application of its power.

The very successful results I have seen it accomplish when used to bring about shrinking in intumescent conditions of the inferior turbinates, led me to extend its use into the post-nasal space to attack the swollen, congested tissues sometimes found lying about the opening of the Eustachian tube.

The method of procedure is as follows: The case has usually been under observation for some time, and on account of having been carried through a course of Eustachian catheterization, the exact location of the mouth of the Eustachian tube is well established in the mind of the surgeon. He has found just which size and shape of catheter is most easily introduced into the opening.

The cautery apparatus used consists of two rather heavy copper wires properly insulated, bound together and connected at the extremities by the platinum tip. This instrument is flexible and capable of being bent into any shape desired, but is of sufficient stiffness to retain its new shape. The catheter which has been found to most easily fit into the Eustachian tube opening is selected, and the cautery is molded into a duplicate of the shape of the catheter. After properly cocaineizing and shrinking the nasal tissues, the cautery is introduced into the nose and into the same position assumed by the catheter when inflating the ear.

The operator now practices finding four points, each about five millimeters above and below, before and behind, the opening of the tube. This is done by cautiously working the tip out of its exact apposition in the opening of the Eustachian tube, and then slightly twisting the cautery up and down, and partially withdrawing and over introducing it. After having familiarized himself with the four points he wishes to cauterize, he begins by placing the tip on the superior location and proceeds to cauterize that point. It is not desirable to burn deeply, and this is best accomplished by having the rheostat adjusted to a maximum degree of heat, and the cautery is held in place only an instant after the current is turned on. It is then pulled away from the post-nasal wall, with the current still on, the current being disconnected immediately afterwards.

The other points selected are then cauterized, the anterior one being taken last. It has been my habit, when making this last application, to draw the cautery forward and partially over the posterior end of the inferior turbinate. This last movement give us a linear burned area extending from the anterior cartilage of the mouth to the Eustachian tube forward into the posterior root of the inferior turbinate.

The whole operation is accomplished in a very short time, and in no case has it seemed necessary to use any particular dressing. The part has only been smeared over with carbolyzed vaseline, and the patient instructed to use an atomizer containing a weak menthol oil solution.

As soon as the reaction, which is very slight, has subsided, the catheterization is begun as before the operation, and in each case the Eustachian tube has shown a marked improvement in its ability to remain free.

Since adopting this measure, my attention has been drawn to an article by Dr. Sluder of St. Louis, who reports the technique of an operation somewhat similar to the one I have described, in which his results are said to be most gratifying. It is with much satisfaction that I also note in his article the report of his long and satisfactory use of the galvano-cautery on the inferior turbinates.

As the cases in which this procedure is definitely indicated are somewhat rare, I have only been able to make use of it in five cases, and their histories are as follows:

*Case 1.* Aged 50 years. Had been somewhat deaf



for 5 years. Before seen by me he had had a submucous septum operation performed, with good results. On examination the inferior turbinates showed an intumescent condition and a chronic tubotympanitis. After catheterization, the tubes remained open, and hearing would remain improved for almost one day, then gradually become dulled. I first did a linear cauterization of both inferior turbinates, with very good results. Both nostrils remained free, and the breathing space was ample. The tubal condition, however, did not improve, so one month later I performed the cauterization about the mouths of both tubes. The ears were catheterized two weeks later and the catheterizations continued once a week for four weeks, at the end of which time they were discontinued. Since then, three months ago, the hearing has been greatly improved and the tubes open.

*Case 2.* In this case the cauterization was done only on one side, as the whole trouble was confined to one tube and ear. A large spur had been removed from the septum six months before I saw the patient, but there had been practically no improvement in the condition of the tube or hearing. A series of catheterizations and use of the Eustachian bougie did not bring relief, so the cauterization was done. The hearing began to improve in one week, and the tube remained open.

The next three cases need hardly be reported in detail, as they were quite similar, and a general summary is all that is necessary.

They were all cases of chronic middle ear catarrh of from two to four years' duration. The anterior nares of each had been put in the best possible condition, but in spite of this, combined with a proper course of inflation of the middle ear, by means of the catheter, the tubes still continued to close on the least provocation, causing the usual increased dullness of hearing. After cauterization as described, the cases were all improved as to hearing, and as to the general condition of the Eustachian tubes.

## COMPARATIVE VALUE OF INDIRECT AND DIRECT LARYNGOSCOPY.\*

STANTON A. FRIEDBERG, M. D.,  
CHICAGO.

Every laryngologist knows how much may be accomplished by means of indirect laryngoscopy. What may be done with the direct method is not so well known. It is hard to realize why the possibilities of this method have been so neglected. Except for a comparatively few men we find an apathetic attitude in regard to this procedure

that, to say the least, is unprogressive. When it comes to the examination of the larynx and trachea in infants and young children the direct method bears the same relationship of importance to the perfection of laryngology as the discovery of the laryngoscope bears to its development.

Under direct laryngoscopy we include the examination with the open or closed tube speculum and suspension laryngoscopy. For ordinary routine examination of the larynx, it is hardly probable that the indirect method will be superseded. Even in direct work it is always advisable, if possible, to make a laryngoscopic examination preceding the use of the speculum. This applies particularly when there is hoarseness, dyspnea, or other evidence of obstruction in the respiratory tract. In infants or young children, the laryngoscope often can not be used satisfactorily. In making the direct examination in these cases some authorities advise having within reach a suitable sized bronchoscope which should be introduced in case spasm of the glottis comes on. Where dyspnea of marked degree is present, due either to a supraglottic or infraglottic swelling or edema, any manipulation either through examination or operation, may cause an increase in the swelling which may necessitate intubation or tracheotomy.

In an article in collaboration with Dr. E. F. Ingals which was read before the A. R. L. and O. Society, June, 1911, the following indications were given for the use of the direct method:

1. The removal of impacted or imbedded foreign bodies in the larynx and the recovery of those that are in a position inaccessible with the employment of the indirect method.

2. For diagnosis of laryngeal conditions in infants and young children with whom the indirect method can not be employed. Among these conditions may be mentioned papillomata, stenoses, congenital or acquired, malformations, etc. Under this heading may also be included the treatment through the direct method of these conditions: e.g.; the removal of papillomata, etc.

3. For inspection of certain parts of the larynx or trachea that are invisible or at best poorly seen with the use of the mirror, such as the posterior wall, sub-glottic space or under surface of the cords. The treatment of various lesions in these locations may be carried out perhaps to some extent better than by the indirect method.

4. The direct method may at times give a better picture as to the natural limitation or extensiveness of a lesion in the larynx.

To these may be added a fifth indication: Intubation

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

and extubation. The latter is quite easily done by the direct method. The former at times presents some difficulties. It necessitates the use of a speculum of the Mosher type, as the teeth offer an obstruction to the head of the tube when the open speculum is used. In some conditions its use seems preferable to the older method especially where long tubes are required as in tracheal stenosis.

The development of suspension laryngoscopy marked a decided step in advance in our specialty. The advantages of this method over the simple direct method lie in the fact that the operator has both hands free. With suitable instruments much more delicate and thorough work can be done in the larynx. Suspension laryngoscopy is a hospital procedure and unless carried out under general anesthesia is extremely uncomfortable to the patient. From the early literature it may be gathered that its use is indicated in almost every condition of the throat, hypopharynx, larynx and trachea. As is usual with all new methods later investigations have placed some limitations upon its indications. It is of special use in tubercular laryngitis as the field may be exposed to better advantage and the operative procedures carried out more effectively and thoroughly. In removal of the epiglottis the hemorrhage can be controlled better. If curettage or the galvano-cautery is used a more accurate application is possible. In these cases the question of anesthesia is an important one. Ether and chloroform are contra-indicated. Local anesthesia alone is apt to be unsatisfactory. Levy of Denver has used scopolamine-morphin with satisfaction, but we must not overlook its dangers.

Non-malignant growths in the larynx, particularly in the parts usually difficult of access, such as under the cords or where the growth is extensive, as is found in multiple papilloma, offer a favorable indication for suspension. The removal of growths in the anterior commissure may prove difficult with either the direct or indirect method. Tumors and other lesions in the hypopharynx and in the region of the mouth of the esophagus are also favorable for the suspension method. The use of suspension in bronchoscopy for the removal of foreign bodies from the bronchi has not met the expectations of some of the early advocates of this method. In the larynx, sub-glottic region and trachea, the operation can be done readily, but general anesthesia,

which in itself is not always advisable or without danger, must be employed.

In the writer's own experience the limitation of movement of the bronchoscope by the tooth plate of the suspension apparatus offers a decided handicap for satisfactory work. We find that those who formerly advocated it now remove the suspension apparatus after the bronchoscope is in position. Some operators in performing bronchoscopy only use suspension in children. I can see no advantage in this. It has the disadvantage that a general anesthetic, which is dangerous, must be used. Besides this added danger the operation is prolonged. The adjustment of the apparatus also lengthens the time which may be a decided factor as far as the well-being of the patient is concerned. In malignant growths of the larynx, suspension is not the method of choice and is not at present advocated. Much better results are apt to be secured by thyrotomy.

The views embodied in the preceding part of this paper are largely those of men who are doing considerable work in this field. We may conclude, therefore:

1. That there is an interdependence of one method with the other.
2. That the indirect method for routine examinations, treatment and certain operative measures will continue to fulfill the ordinary requirements of the laryngologist.
3. For the examination and for the removal of foreign bodies in the larynx of infants and young children, the simple direct method where no anesthesia is required occupies a field of its own.
4. That suspension laryngoscopy has definite surgical advantages that can be attained in no other way where extensive operative or treatment procedures are required in the larynx and trachea.

## EXAMINATION OF THE DISCHARGE IN MASTOID DISEASE.\*

ALBERT H. ANDREWS, M. D.,  
CHICAGO.

The purpose of this paper is not to enter into a discussion of the bacteriology of purulent otitis media and its complications, but to call attention to two other findings in the microscopic examination in the discharge, i. e., bone debris in the acute and subacute cases and epidermal cells in the chronic cases.

It is generally agreed that in most cases of

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



acute purulent otitis media the mastoid cells are diseased. There is no doubt that the majority of acute cases with mastoid involvement recover without a mastoid operation. It has fallen to the lot of most otologists to have watched cases which failed to clear up as they should and which showed none of the ordinary signs of mastoid abscess and yet upon opening the mastoid it was found full of pus and the mastoid cells broken down.

On the other hand, we see cases showing most of the ordinary symptoms of mastoiditis recover without operation.

That neither the blood count, nor bacteriological findings, nor the constitutional disturbance, nor the ordinary local symptoms can be depended upon to give a correct index of what is going on in the mastoid is generally admitted. The lack of constant relation between symptomatology and pathology has caused the writer to look for and to investigate other indications.

The transilluminator and the x-ray have been of material aid in some of the obscure cases, but of even more value has been the microscopic examination of the discharge. In examining for bone debris a rather thick smear is made and immediately dried and fixed with heat. The slide is stained lightly with hematoxylin, washed, dried and examined with a low power objective. Bone particles appear very dark or black in a comparatively light field. These particles have the property of taking the stain and of not giving it up in the washing process. If the slide is stained too deeply we do not get sufficient contrast to differentiate between the bone particles, when present, and the soft structures. Care must be exercised to avoid dirt and dust. The specimen should be taken from the deeper part of the canal or beyond the membrane, especially if the canal has been exposed to the air.

The clinical value of this examination lies in the fact that so long as there is no breaking down of the bony partitions between the mastoid cells it is possible or even probable that the mastoid disease may clear up without operation. When, however, the breaking down process begins bone debris will appear in the pus and the indications are clear for operative interference.

A single case is selected for illustration, only the salient features being given:

Miss S., aged 19 years, had been under the care of her physician for ten days for acute purulent otitis

media. She complained of a dull, heavy feeling on that side of the head. When I examined her I found the temperature 99.4 degrees, pulse 84. No tenderness or perceptible swelling over the mastoid or in the auditory canal. There was a suspicion of thickening about the mastoid attachment of the sternocleidomastoid muscle, and the transilluminator showed a deep shadow in mastoid of that side as compared with the opposite. There was a small perforation with a profuse discharge. Examination of the discharge for bone particles showed nothing suspicious. There was no change in the appearance of the pus for four days when a few suspicious particles appeared. The next day they were present in abundance and operation was advised. The following day the mastoid was opened and bone necrosis found.

This case, with many others of like character, together with those that recovered without operation when bone debris was not found, leads to the conclusion:

1. That in the absence of bone debris in the pus, no other complications appearing, the waiting plan is indicated and is comparatively safe.
2. That when bone debris is found immediate operation is justified.

I would not take the ground that when bone debris is present it is impossible for the patient to recover without an operation, for I have seen cases recover spontaneously after most of the mastoid process had come away as necrotic sequestra. When, however, a mastoid operation becomes inevitable, the sooner it is done the sooner the patient will recover, and the less will he be subjected to dangerous complications. When the surgeon can study the condition of the pus, it gives him a better idea of what is going on in the mastoid and greatly adds to his sense of security in the management of his acute and subacute cases.

In the chronic cases of purulent otitis media one of the frequent causes of the chronicity is the presence in the antrum or mastoid of an epidermal lining. When the drum membrane is destroyed or when the perforation extends to the margin the skin of the auditory canal sometimes pushes through, encroaches upon and replaces the mucous membrane lining of the middle ear. The natural tendency of the skin to exfoliate is found in this field as in other skin surfaces. If the exfoliated layers are retained in the mastoid or antrum a mass forms which is called a cholesteatoma. This keeps up the discharge, leads to pressure absorption, and is in time likely to invade the labyrinth or cranial cavity.

When there is an epidermal lining of the antrum or mastoid, epidermal cells, either singly or in layers, can usually be found in the discharge.

In examining for these cells a thick smear is made and stained with methylene blue. The cells themselves seem to have undergone a sort of waxy degeneration and do not take the stain as well as the surrounding mucous and pus cells. The pus should be taken if possible from the middle ear cavity as this avoids confusion with macerated epidermis from the external surface of the drum membrane or the auditory canal. When there is found an abundance of epidermal cells, singly or arranged in layers, it points strongly toward surgical treatment of the case.

---

#### THE DANGER OF INCOMPLETE EXAMINATION IN NASAL CONDITIONS.\*

C. H. LONG, M. D.,  
CHICAGO, ILL.

A discussion of the complaints and their correction of a small portion of the human anatomy is seemingly of little consequence to the body politic; but if methods and principles can be evolved which would be the means of bettering that body, their use would be justified. When medical societies consume valuable time in reviewing medical achievements without making any addition to our knowledge or formulating methods and plans for the intelligent use of the facts we already possess, it usually leads to a state of inaction and in the majority of instances seals the fate of those societies for any further usefulness. Likewise any doctor of medicine or dentistry who neglects to investigate thoroughly the conditions present and their causes and, therefore, fails to suggest the proper remedies to bring about the alleviation of the abnormality is guilty of almost criminal negligence.

The Supreme Court of Washington affirmed a judgment for five hundred dollars (\$500) damages for an alleged wrong diagnosis and ensuing treatment based thereon.<sup>1</sup> The court says that the law is, of course, well settled that a physician is liable for a wrong diagnosis of a case, resulting from a want of skill or care on the part of

the physician, and followed by improper treatment, to the injury of the patient, but, unless improper treatment follows, a wrong diagnosis gives no right of action.

The well equipped rhinologist of today undertakes his labors with such exactness of purpose and confidence of success that he inspires his patrons with the utmost faith and trust.

This appreciation on the part of the patient is increased or diminished in the same ratio as are our successes to our failures. Hence, by employing every means at our command, we should prove our skill in determining an exact diagnosis.

The infant of a few weeks with a nasal obstruction might tax our ingenuity to learn the cause. Not discovering it, the gravest consequences might follow. Some years ago I happened to have such a case in my care and it was not until after a most exhaustive examination that I was able to decide that the condition was due to syphilitic infection contracted from nursing its mother who had acted the good Samaritan in nursing another child who was a subject of syphilis. Later the mother had a chancre of the nipple and passed through her secondaries.

At the early school age the diagnosis and treatment are less difficult, but occasionally a complete diagnosis is questionable after a gross or even a microscopic examination of a growth on account of the similarity of structure in different neoplasms. Early in the year 1911, a woman spoke to me about her only child, an 8-year-old son, who had recently commenced to snore during sleep. I suggested that she should bring him in for an examination. A few months later she conferred with me again not about making an examination or an operation, but to inform me that his tonsils and adenoids had been removed; that a severe hemorrhage had occurred from the adenoid region, that he had been kept in the hospital for six weeks, that the growth had been examined and the laboratory had reported the diagnosis of round-celled sarcoma—cancer. What a terrible shock! The laity knows too well what the word means. The mother was greatly distressed and hoped against hope that I might suggest some extraordinary remedy to rescue her precious boy from death. But I could give her little comfort for a skilled rhinologist aided by a renowned pathologist had determined the condition present and gave a fatal prognosis. However, I recommended the x-ray. Four or

---

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

1. *Justice et al. vs. Littlefield* (Wash.), 151 Pa. R., 180; Jour. A. M. A., Vol. LXVI, No. 10, March, 1916.



five treatments were given, but hemorrhages and headaches following, the treatments were discontinued and I did not see the case again until the spring of 1912, when I was requested to make a hurried call at the home, and learned that something unusual had happened. Upon my arrival I found the lad much emaciated, a mere skeleton. The left eye was bulging, the left cheek protruding, and there was total nasal obstruction. In the open mouth there was a dark mass of tissue, parallel with the tongue, accompanied by a most offensive discharge. It was the sudden appearance of this black mass that caused the excitement and my sudden summons to the bedside. I noticed that this was a displaced process of the tumor twisted upon itself which had become strangulated. A section was removed and submitted, with the history, to the pathologist who had given a diagnosis of sarcoma, for examination. A report of a round-celled fibroma was returned.

On July 12, I removed, through the mouth, a large growth from the naso-pharynx. Today, almost four years after the operation, the boy is enjoying perfect health.

In *middle life* thoroughness in diagnosis is still our watch-word. A man forty years of age, a tailor by occupation, had an extensive intra-nasal operation for chronic frontal sinus disease. Although his sinus symptoms were relieved, he suffered greatly from dryness of the nasopharynx. No local treatment alleviated his condition. He was advised to change his environment. Accordingly he became a collector of old iron in the country, driving a horse and wagon. Six months later he had gained forty pounds in weight and informed me that his nose and throat gave him no further annoyance. At this time in life nasal obstructions are frequently due to systemic disorders which are often overlooked in treatment; such disorders as nephritis, chronic syphilis, arteriosclerosis and other conditions causing high blood pressure. These should be thoroughly investigated prior to any operative procedures on account of the unhappy consequences that may ensue without effecting a particle of relief.

The following case illustrates in a measure what might have happened if the turbinate had been partially or wholly removed as a relief to the nasal obstruction.

In 1893 I met a young man of robust physique and excellent habits, employed as cashier in a large freight

office owned and conducted by the Chicago & Northwestern Railroad Company. Later he became successively secretary, manager and president of a brewery company. In 1911 he consulted me for nasal obstruction, dyspnea and periodical attacks of epistaxis. After a thorough examination of the nasal cavities and finding an excessive congestion of the tissues and no apparent local cause and being familiar with his personal history since his affiliation with the brewery I summoned to my assistance an expert internist.

Dr. A. R. Elliott of Chicago returned the following report:

Systolic blood pressure..... 200  
Diastolic blood pressure..... 130  
Right heart insufficiency.  
Hypertension.  
Mitral murmur.  
Gallop rhythm.  
Cardiac arteries sclerosed.  
Hepatic sclerosis.  
Hyaline and granular casts in the urine.

What had brought about this deplorable condition? The habitual over-indulgence in drinking spiritous liquors. Here our attention is attracted to the absurdness of expecting to relieve this man's nasal obstruction, dyspnea and nose-bleed by any kind of local or operative procedures. Indeed, the hemorrhage was his safety-valve and any attempt to prevent it would have endangered his already serious condition.

In a résumé of these four cases we observe in Case 1:

The accidental transmission of syphilis to an innocent babe. A disease as old as the world and as prevalent in large centers of population as at any time in history. We are proud of the results of research in making us acquainted with that elusive parasite, the *spirochete*. Let us hope it will not be long before we are as conversant with its habits and modes of life as we are with those of the tubercle bacillus. So satisfactory have been the results in the application of remedies for syphilis that the laity and many physicians believe that all that is necessary to eradicate this destructive robber and murderer is a vial of 606 or a few doses of mercury and iodide of potassium. We have been so engrossed with the *cure* of syphilis that I am afraid we have often forgotten the advantages of prophylaxis. I think medical men should endeavor to educate the public in sex hygiene, especially in regard to the prevention of syphilis. If this child's mother had been taught, when at school, how to protect herself from such a perilous infection, neither she nor her offspring, presumably, would have become its victims.

In Case 2, the character of the neoplasm

spelled life or death for that boy. Embryonic connective tissue cells, in certain stages of their development, so closely resemble certain forms of sarcomatous cells that even expert microscopists are unable to differentiate them. A mere accident caused a second examination. The history strengthened by the pathologist's report made for successful results.

In Case 3, there was an insufficient amount of normal tissue to meet the increased nasal physiological demands occasioned by the indoor habits, impure air, and sedentary occupation, the left naris having been deprived of its middle turbinal in the treatment of the frontal sinusitis, so by changing his occupation and his environment, i. e., transferring him to an active country life we greatly lessened these demands on the nasal tissues. We increased his resistance and thereby aided in promoting a subsidence of all irritation and secured for him a comfortable feeling in the nasopharynx.

Case 4 reminds us that a nasal obstruction beginning after middle life, not occasioned by local infection nor an acute or a chronic condition (of adjacent structures), nor by neoplasms, benign or malignant, nor by trauma, should be considered as a result of some general condition the exact cause of which must be discovered before intelligent treatment or any relief can be expected.

In concluding this discourse, I desire to point out the advantage of writing case histories as assistance in making correct diagnoses aside from the benefit of having the histories for future reference. I am aware that most physicians keep full histories of their patients, but there are still a goodly number of careful, conscientious practitioners who neglect this important duty. The printed history headings are of advantage. Loose leaf history sheets, printed or blank, are very satisfactory indeed. The printed form saves time, but many men prefer dictating their own methods to a stenographer or writing the histories themselves. In jotting down notes systematically from headings, details are considered which otherwise might be overlooked. Such an oversight often results in a mistaken diagnosis and treatment of the case.

If, on the one hand, you are not competent enough to make your own analysis or, on the other hand, lack time for it, utilize a good pathological laboratory, for you will not only

get a vast amount of information for your own special use, but, because of careful, painstaking interest, your own efficiency must relatively increase. Thus, through thorough and scientific efforts, you will attain to an even greater degree of success and be filled with the buoyant, inspiring knowledge of labor well done.

## REVIEW OF THE PRINCIPAL OPERATIVE MEASURES ADVOCATED IN THE REMOVAL OF THE FAUCIAL TONSIL.\*

A. B. MIDDLETON, M. D.,  
PONTIAC, ILL.

### ABSTRACT.

There has been much said and written upon the subject during the past few years. Therefore, a review made among the men doing this particular line of throat work will be of value as by it we will obtain the true pulse of the profession regarding methods that have been adopted and are being followed as the best and safest.

Ten questions were mailed to three hundred throat specialists living in all parts of the U. S. A. as follows:

1. What do you consider the principal and safest operative measures for the removal of the faucial tonsil?
2. Which method do you use the most?
3. Do you prefer general or local anesthesia?
4. What per cent. of your cases require the use of artery forceps at the time of operation on one or more vessels?
5. What is your per cent. of post operative hemorrhages?
6. How many days do you find before the throat is usually healed?
7. Do you give after treatment?
8. What per cent. of your cases recover with both sides of the throat alike in appearance?
9. Are you using any original plan in doing this operation?
10. Kindly offer any suggestions that you might think will be of value to all in a review of this kind.

Up to date one hundred fourteen replies have been received, which show the following results: To question No. 1, with regard to the various operations for removal of the tonsil, there were

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



in all seven methods suggested: Sharp knife, enucleation, dissection and snare, guillotine, finger dissection, cautery knife, scissors and circumcision.

To question No. 2, with regard to the method preferred: circumcision 1, scissors 1, cautery knife 1, finger enucleation 3, sharp dissection enucleation 10, guillotine 17, dissection and snare 81.

Question No. 3, with regard to anesthesia: seven use local in all cases, 52 use local in adults and general in children, while 55 use general in all cases.

The replies to question No. 4, with regard to the use of artery forceps at the time of operation are quite interesting: 2 use them in 100 per cent. of their cases, 2 in 75 per cent., 1 in 60 per cent., 4 in 50 per cent., 1 in 25 per cent., 2 in 20 per cent., 4 in 10 per cent., 11 in between 1 and 6 per cent., 86 use them in none or less than 1 per cent. of their cases.

Question No. 5, relative to post operative hemorrhages, shows that 37 have been fortunate enough not to have had, as yet, their first case of post operative hemorrhage, while 77 have only had from one to three cases each.

Sixty-eight men claim the throat is thoroughly healed under ten days, while 46 say that it takes more than ten days in the average run of cases.

With regard to the use of after treatment, 55 use some form of after treatment, while 59 do not use anything at all.

Sixty-seven find both sides of the throat alike in more than 50 per cent. of their cases, while 47 find theirs alike in less than 50 per cent. of cases.

In reply to question No. 9, with regard to using any original plan, 37 are using some or in part original ideas, while 77 are following out methods suggested by others. The last question, No. 10, with regard to any suggestion that might be of value in a survey of this kind, has brought out suggestions from 65 and I am here to say that most all of them are very valuable ones, but at this meeting, time will not allow me to discuss them, but I desire to say, to those that might be sufficiently interested in a work of this kind, that I have brought with me the original replies, so that you may have the opportunity to examine them personally, after this meeting is over, if you so desire.

## THE PROGNOSIS AND TREATMENT OF THE COMMON INTRACRANIAL COMPLICATIONS OF NOSE, THROAT AND EAR INFECTIONS.\*

NORVAL H. PIERCE, M. D.,  
CHICAGO.

Professor of Laryngology, Rhinology and Otology at the  
Medical College of the University of Illinois and  
Head of the Department.

The prognosis of intracranial complications having their origin in nasal infections possesses an entirely different aspect from that of those having their source in aural disease. Especially is this true as regards the acute processes. Meningeal irritation, for instance, has a more sinister meaning when it appears in nasal disease than it does when it occurs in ear inflammations. The reason for this is not simple. The vascular and nerve intercommunication is not as great in the middle ear as in the nose. The thickness of the osseous tissue which surrounds the middle ear has a tendency to ward off inflammatory processes from the cranial cavity, and even in those rare cases where the softening action takes place with great rapidity within the mastoid, plastic material usually successfully protects the meninges from invasion. Indeed, the dura itself seems to possess greater powers of resistance in the temporal region than it does in the anterior fossa. Again, in our operative procedures we find that the nasal accessory sinuses may be much more inaccessible than are the pus-containing cavities of the ear. Especially is it true that even with the most painstaking care and well-seasoned skill the eradication of every suppurating focus in the ethmoid labyrinth may present the greatest difficulties. I speak here of external operations—the only method to be employed in dealing with suppuration within the accessory sinuses when the invasion of either the orbital or cranial contents is threatened in acute or chronic infections. Further, intranasal operations in acute conditions may be highly hazardous. I have known of four cases in the last two years which have terminated fatally, in which portions of the middle turbinate bodies have been intranasally removed in the first week of inflammation of the anterior series of cells. In my opinion, those cases of acute frontal sinus and ethmoid disease demanding immediate operation

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.  
1. J. A. M. A., Sept. 21, 1912.

constitute the rarest exceptions. Non-operative treatment is by far the more successful and less dangerous in the largest number of such cases. This does not hold in subacute and chronic cases. Here intranasal procedures may be attempted, provided intracranial or orbital complications do not threaten. If such complications do impend, the external route is safest.

Wounds of the frontal sinus are especially liable to lead to unexpected disaster unless very carefully scrutinized. Stab wounds may penetrate the inner wall and yet have a very small point of entrance, which may heal by first intention. The brain symptoms at the time may be very trivial. But on the appearance of meningeal symptoms, the frontal sinus is opened, the cavity is found to contain pus which, infecting the wound in the inner wall, has been communicated to the arachnoid cavity. Such cases have a very high mortality. All penetrating wounds in this region should, therefore, be carefully examined immediately, and if the frontal sinus is found to have been penetrated, the sinus should be opened and its inner wall scanned for a break in its continuity. If this is found, the wound in the inner wall should be enlarged, disinfected and the dura, if that is punctured, drained. Magnetizable bodies should be removed by the magnet at the earliest moment, and the external wound should not be sealed.

With these preliminary remarks, I shall proceed with a brief resume of my knowledge, from personal experience, regarding meningitis, sinus thrombosis and brain abscess in connection with nose and ear diseases. As I have many times before said, I have never yet seen a case of general suppurative leptomeningitis recover, and when one views the arachnoid space in these cases post-mortem one must be convinced that it is impossible to drain by any operative means at present in our power this enormous and complicated region.

Pachymeningitis, on the other hand, is a comparatively harmless condition. Considerable quantities of pus may lie beneath the dura without giving any pathognomonic signs, and are frequently discovered only at operation. This may not be said of intradural abscess, as occasionally occurs in infection of the sacculus endolymphaticus.

Here we probably invariably have symptoms referable to the labyrinth, besides signs of irritation of the arachnoid. That *circumscribed* septic

meningitis may recover, I am convinced, whether from local drainage of the arachnoid cavity or by simply removing the infected area in the ear is a question in my mind. Here we find, in just these cases of circumscribed septic meningitis, that those affecting the anterior portion of the brain, as compared with those affecting the posterior fossa, are less liable to recover.

Suppurative meningitis of otic or nasal origin cannot be differentiated immediately from serous meningitis. They both may give the same symptomatology—headache, stiff neck, the same degree of fever, photophobia, Babinski and Kernig; the clinical findings of the cerebro-spinal fluid, taken by lumbar puncture, may be the same, with one exception—that is to say, we may have absence of globulin, absence of sugar, increased acidity, great increase in the cytologic count, and bacteria in both types of the disease. In suppurative meningitis that is not sealed off we recover viable microorganisms; in serous meningitis or localized plastic meningitis that is sealed off we do not.

Up to the present I believe that if we cannot recover viable microorganisms, the prognosis is infinitely better than in cases where we do recover such viable bacteria. It is true, there have been cases reported where viable microorganisms have been recovered and the cases terminated in recovery. However, I feel that such cases may not be above suspicion of contamination due to an error in technique in withdrawing the spinal fluid. We should be infinitely careful of our asepsis, carefully scrubbing the skin, washing with alcohol, and painting with iodine. It is unnecessary to say that the needle and the instrument used for measuring the pressure of the cerebro-spinal fluid should be carefully sterilized, the hands encased in gloves—in fact, every means employed that we use in the nicest aseptic technique.

It is held by some that a serous meningitis is but the first step in a septic meningitis. Clinically, however, I believe it is exceedingly important to differentiate the two, especially in view of the extreme mortality of one and the harmless character of the other.

I am inclined to the belief that if we remove the offending foci which cause meningeal irritation we have done about as much as surgery is capable of doing. I am not in favor of drainage of the arachnoid space through the septic wound



which we make in evacuating the suppurating foci in the temporal bone or in the nose. I think it is better practice, if we are inclined to drain the cerebro-spinal fluid from the arachnoid spaces, to make our entrance in an uninfected region, either in the temporal or frontal region. However, I think that all such efforts are futile. I do believe, however, that repeated lumbar puncture has a favorable influence on the course of serous meningitis or even circumscribed meningitis in the temporal region. It certainly relieves the symptoms, temporarily at least, of pressure and temperature, thus decreasing the headache and the stiff neck, as has been repeatedly observed.

Injections of medicinal substances into the arachnoid space by lumbar puncture after the withdrawal of equal quantity of cerebro-spinal fluid have not proven as beneficial as we once thought they would be. Administration of hexamethylamin I am inclined to think is beneficial—at least, I am in the habit of administering this drug in large doses, ten grains every two or three hours, accompanied by bicarbonate of soda, dissolved in a glass of water.

Vaccines and sera in the streptococcus variety of infections have been disappointing, though there are some other observers who have faith in them from their experience.

One of the most frequent paths of infection of the arachnoid space is the transmission of septic material from the labyrinth after it has become secondarily infected from disease of the middle ear.

It is important here to remember that quite a revulsion of feeling has taken place in America within the last three years against the dicta promulgated by the Vienna school as regards these affections. We now know that it is exceedingly difficult to differentiate at once in many cases between serous labyrinthitis and septic labyrinthitis. When once the labyrinth was involved in the course of a suppuration in the middle ear the German school advised immediate exenteration of the labyrinth, either by means of the Neumann operation or the Jensen operation, and this in the midst of the stormy symptoms that characterize such involvement, such as deafness, vertigo, vomiting and nystagmus. I believe that such procedure is most often unsafe; it may even add to the danger of invasion of the arachnoid space, causing meningitis. Even in

septic suppurating labyrinthitis we have quite a dependable agent for the protection of the arachnoid space in the plastic inflammation which may be set up in the perivascular spaces of the nerve through which the cerebro-spinal fluid passes from the perilymphatic spaces of the ear to the arachnoid cavity, as well as in the ductus cochlearis.

I have, therefore, been in the habit of waiting in these cases and not operating upon the labyrinth until these symptoms subside, with the exception of those cases where symptoms of meningeal irritation are present or viable microorganisms are recovered from the spinal fluid. In such cases our best chance lies in labyrinthine exenteration. I do not, however, wish to be understood as hesitating in certain cases to remove the suppurating foci in the mastoid at once by means of a radical operation, as these cases nearly always occur in chronic suppurative otitis media. But I am inclined to think even such operations should in the majority of cases be postponed until the stormy symptoms on the part of the labyrinth have subsided, as the trauma incident to a radical operation may throw the balance toward meningeal invasion.

*Septic Thrombosis of the Lateral Sinus.* The prognosis of sigmoid sinus thrombosis depends largely on the timeliness of operation. Delay means added danger, but hurry is frequently fatal. Delay that is sufficient for a clear diagnosis adds to safety. We should be careful in all our cases to exclude all diseases which may stimulate sepsis due to sigmoid sinus thrombosis, the principal of these being malaria, erysipelas and tonsillitis. Once, however, we are assured that there resides within the sigmoid sinus a suppurating focus, we should immediately resort to surgical interference. There are several ways recommended for this procedure. One is to simply uncover the sinus and leave the thrombus undisturbed. To my mind, this is an unsafe procedure. The next method is to open the sinus and leave the thrombus in place, merely packing the sinus open. This, I believe, is an unsurgical procedure, as it does not accomplish all that may be accomplished in removing the infected focus. Another method, and the one that I have adopted for many years, is to open the sinus and remove the thrombus, and then pack the sinus walls open.

An interesting question comes in here as to

when we should tie the jugular. Some radical operators believe that we should, before opening the sinus, tie the jugular, in order to prevent the spreading of infectious particles from the thrombus, to the general circulation, from the necessary manipulations which we have to employ to remove the thrombus. I am not altogether in accord with this view. My experience has led me to believe that the best method is to open the sinus, remove the thrombus, and if we cannot obtain hemorrhage from the lower portion to then tie the jugular—not only tie the jugular, but dissect out a portion of the jugular between the upper and lower ligations. The upper ligation should be above the facial, and the lower below the inferior thyroid vein. The intervening portion of the vein should be resected, because it is not by the microorganisms within the thrombus that the clot spreads, but through invasion of the walls of the vessel itself by the pathogenic organisms. It has been necessary to go farther down in the neck and tie off close to the thoracic vessels, at the origin of the jugular. Especially is it necessary to tie the jugular in isolated primary thrombus of the jugular bulb. In such cases we may get a very profuse hemorrhage from the sigmoid. Our only hope is to ligate below. It is a difficult matter to reach, in the large majority of cases, the jugular bulb directly, as in Grünert's operation. It is easier and safer, I believe, and just as effective, to pack above in the sigmoid sinus, tie below, and sew the lower end of the jugular to the skin. In this way after a few days we are able to flush the jugular bulb from below upwards.

Also, in cases when metastasis has already occurred the jugular is resected as a preliminary to opening the mastoid.

I will say but a few words regarding thrombosis of the cavernous sinus, a condition which may arise by spreading of the septic process through the sinus petrosus superior, from sigmoid sinus thrombosis, or through the ophthalmic in nasal suppuration. I have as yet not done the operation of opening into the cavernous sinus. It is a question in my mind whether this is a warrantable operation.

**Brain Abscess.** The prognosis of brain abscess is always grave. The situation of the abscess has a great deal to do with the surgical outcome. Those abscesses that can be traced from the infecting source have an infinitely better prognosis than those situated at a distance from the

infecting source and separated by intervening healthy brain tissue. In the former case the abscess has what is aptly called a stalk, which may be traced from the tegmen antri or tegmen tympani directly into the body of the abscess. In such cases the arachnoid is safely sealed up. In the other form of abscess, where intervening healthy tissue separates the mastoid and middle ear from the infected brain mass, we have to explore by puncture. Two additional dangers here are added, which are not present in the former form of abscess. *First*, we are liable in our exploration to infect the arachnoid space, if we are fortunate enough to strike the abscess. *Second*, the abscess is very frequently missed altogether, even with the most careful exploration. But even here we are not safe from infection of the arachnoid space by our futile efforts at finding the abscess if we explore from the septic cavity in the mastoid. No matter how exactly focal diagnosis has located an abscess, these dangers are not removed.

Where exploration is necessary, the subarachnoid space should be packed off after incising the dura, and the packing left in place for twelve to twenty-four hours before the brain tissue is explored. In this way we as nearly as possible prevent infection of the leptomeninx.

The best drain is the glass drain—at least, for the first forty-eight hours, when the cigarette drain may be substituted, if there are no large quantities of pus being exuded. There is great danger in insufficient drainage in brain abscess. Very frequently such abscesses are multilocular and drain with great difficulty one into the other.

The great danger in operated cases, as well as non-operated, is a tendency to break into the ventricles, when, of course, death supervenes very rapidly.

**Prophylaxis.** Above all, the most valuable point in the treatment of these terrifying intracranial complications is prevention. All chronic suppurative diseases of the ear, and I may say the nose, with some reservations, which resist palliative measures or non-operative measures, should be eradicated by surgical procedure. This does not mean that every chronic running ear should be destroyed by the radical mastoid operation. This does not mean altogether that every chronic running ear is a menace to life.

A discussion of the indications for the radical operation would go far beyond the purpose of this



paper, and yet, in a way, it belongs justly to it. I believe this subject, however, is to be covered by another paper on the program, and I will not touch upon it here further than to say that a suppurating ear disease which resists intelligent, adequate local treatment, and in which the discharge is abundant and contains in it bone chips, or cholesteatoma, or even cholesterol crystals, should be subjected to an operation. Not that all these cases menace life, but that it is difficult in such cases to tell just which are the menacing cases and which are not. The same may be said of chronic suppuration in the accessory sinuses. But, as I remarked at the beginning of the paper, it is much more difficult to gain access to every suppurating focus in the nose than in the ear. Many of these cases do well enough by intranasal surgical measures, facilitating drainage from the frontal sinus, for instance, by taking away the anterior portion of the middle turbinated body and opening into the anterior series of ethmoidal cells. However, to reiterate again a very important point, to my mind, whenever there are symptoms of meningeal irritation, or where the orbit is threatened with invasion, we should resort to the most radical external means of reaching the foci affected, such foci being located by the most careful and painstaking rhinological examination, supplemented by the x-ray.

22 East Washington Street.

#### DISCUSSION.

Dr. Stein agreed with the essayist that the prognosis of intra-cranial complications following suppurative processes in connection with the ear is better than that following similar complications following those in the nose, but said one would think that it would be the other way, when one considers the lymphatic circulation of the nose and the brain. One would rather expect that there would be less opportunity for intra-cranial complication, the lymphatic circulation being such that it flows from the interior toward the nose and by separate lymphatic vessels comes through the surface of the epithelial cells, as well as filling the nasal sheet. One would think that if there was infection traveling by way of the lymphatics, there would be less likelihood of infection in the intracranial region of this particular route. He thought a possible exception was the kind of cases that follow intranasal operations, not of the cutting type, but cauterization, particularly of the inferior turbinate.

He knew of cases where death followed, due to an intra-cranial complication and an infection tak-

ing place by way of the ear. Now, we know that we can have ear complications following intranasal cauterization, but why the ear complication following upon the nose condition should produce death more than it would if it was primarily an ear trouble, is the interesting point.

In explanation of the infection causing meningitis with more virulency in the nose than in the ear, he suggested that in most of these cases complicating the ear, it is an infection that has existed for years, and perhaps there is a lessened vitality of the organism, whereas the infection occurring from the nose is usually from injury or from operation.

Dr. Woodruff quoted Dr. Gifford of Omaha to the effect that sympathetic ophthalmia may follow cauterization of a prolapsed iris, and suggested that possibly the eschar perhaps made by cauterization of the nose might be more capable of picking up infection than otherwise.

Dr. Arbuckle inquired whether Dr. Pierce removes the section containing the thrombus or whether he leaves it after he has tied off the jugular.

Dr. Pierce: I understood Dr. Arbuckle's question was, "Do I remove the vein between the upper ligation and the lower?"

Dr. Arbuckle: Yes.

Dr. Pierce: Yes, always. And not only that, but I try to cut way beyond the danger point and resect out a healthy portion of the vein. The thrombus is not extended so much by the pyogenic organisms within itself as by those in the vessel wall.

The point regarding the difference in prognosis, as regards the intra-cerebral complications of the anterior and posterior portion of the brain is not so much centered on the fact that it occurs more frequently, but that once it occurs, it is more deadly. We can readily understand that the lymphatic system and the vascular system is very much more intimately associated with the cranial contents in the region of the nose than in the middle ear. But when once meningeal symptoms show in connection with nasal disease, and especially acute nasal disease, the prognosis is greater than if those same symptoms of meningeal irritation occurred in middle ear inflammations.

---

#### DO YOU KNOW THAT

One million two hundred thousand Americans die each year, it is estimated?

---

Heart disease, pneumonia and tuberculosis cause more than 30 per cent. of deaths.

---

Sickness lowers earning capacity?

---

The U. S. Public Health Service is the nation's first line of defense against disease?

# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society, under the direction of the Publication Committee of the Council.

## GENERAL OFFICERS, 1915-16

PRESIDENT.....WILLIAM L. NOBLE, Chicago  
 PRESIDENT-ELECT.....E. B. COOLLEY, Danville  
 FIRST VICE-PRESIDENT.....C. F. NEWCOMB, Champaign  
 SECOND VICE-PRESIDENT.....R. A. MCCLELLAND, Yorkville  
 TREASURER.....A. J. MARKLEY, Belvidere  
 SECRETARY.....W. H. GILMORE, Mt. Vernon  
 (Ex-officio Clerk of the Council)

## THE COUNCIL

District 1—EMIL WINDMUELLER, Woodstock.  
 District 2—EDWIN S. GILLESPIE, Wenona.  
 District 3—CLYDE D. PENCE, Chicago.  
 District 4—AUGUST H. ARP, Moline.  
 District 5—C. S. NELSON, Springfield.  
 District 6—C. D. CENTER, Quincy.  
 District 7—C. F. BURKHARDT, Effingham.  
 District 8—C. E. PRICE, Robinson.  
 District 9—FRANK C. SIBLEY, Carmi.  
 CLYDE D. PENCE, *Chairman*, 3338 Ogden Avenue.

Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

## MEDICO-LEGAL COMMITTEE

ANDY HALL.....Mt. Vernon  
 WILLIAM O. KROHN.....Chicago  
 GEORGE STACY.....Jacksonville  
 D. R. MACMARTIN.....Chicago  
 C. B. KING, *Chairman*.....3938 Jackson Blvd., Chicago  
 THOMAS D. CANTRELL, *Secretary*.....Bloomington

## GENERAL COUNSEL

ROBERT J. FOLONIE.....39 S. La Salle Street, Chicago

State society will pay no bills for legal services except those contracted by the committee. Notify the Chairman at once. Don't employ attorneys.

SEPTEMBER, 1916

## Editorials

### HELP NOMINATE THE DOCTORS.

Next week, September 13, the state primaries are held. At this primary election are nominated the candidates for the state offices, and all of our members should be interested in placing in nomination men who, while making legislation, consider favorably the medical profession.

More particularly we should help those physicians who are sacrificing their practice that they may benefit the profession through legislative work that treats the profession fairly. Every member of this society should make an effort to help nominate and elect brother members to such offices as they are seeking.

In the Eighth District Dr. A. J. Markley is seeking nomination on the Republican ticket for State Representative. Dr. Markley is now treas-

urer of our society, and a more loyal, worthy or capable representative could not be found.

Dr. Sam W. Latham of Eldorado is soliciting the nomination on the Republican ticket for Lieutenant Governor. Every member of the society will have an opportunity to vote for him.

Dr. A. L. Mann of Elgin is up for nomination in the Fourteenth Senatorial District for Representative.

Dr. P. J. H. Farrell is looking for nomination on the Democratic ticket of the Ninth Congressional District for United States Congress. He, without question, should be elected, and it is up to the doctor to go to the front.

Dr. C. A. Hercules of Madison is running for State Representative in the Seventh District. Our members in these districts should see that these men are nominated and elected.

Dr. W. O. Nance, Chicago, who has done excellent work in the Chicago Council, is up for Trustee of the Sanitary District, and by all means should be elected.

Dr. W. F. Burres of Champaign, who has done so much work for desirable medical legislation as a member of the State Legislature, now seeks nomination for State Senator. There is no more loyal member of the State Society than Dr. Burres.

If the members do their duty, every one of these men will be nominated and elected. If the members are negligent, they will not be nominated.

Doubtless there are other doctors who are candidates for representatives from their respective districts, or for some other public office, but up to this date we have not the information.

Now is the time for the society to help the legislative committee, and now is the time to stand by these doctors, who are willing to sacrifice their time, and who will look after medical interests after election.

### DR. FARRELL A CANDIDATE FOR CONGRESS.

Dr. P. J. H. Farrell is a candidate from the 9th congressional district for the Democratic nomination at the primary, September 13.

Dr. Farrell has served the Chicago Medical Society as councilor, secretary and as trustee and in these offices his ability and energy as an organ-



izer and director have made him one of our best known members.

The profession and the medical press have for years been urging doctors to seek public office, where their experience in dealing directly with the people in their homes, in looking after their physical and material welfare, in learning the needs of the community, makes the doctor an ideal representative in the legislative chambers.

The medical profession should have representatives in Congress and in Dr. Farrell we have a practicing physician, familiar with medical organizations, medical men, their professional and economical problems. A man thoroughly familiar with official life in Washington, where he is well and favorably known.

There is no limit to the energy of the doctor. While a surgeon in the army he commanded the first United States soldiers that landed in the Philippine Islands and received from the war department "honorable mention for bravery under fire of the enemy." When San Francisco was destroyed he organized the Chicago Relief Expedition and in 24 hours was on his way to the stricken city with 100 trained nurses and 25 physicians and medical and surgical supplies for 20,000 patients, receiving the thanks of the Mayor of San Francisco and the Governor of California for the help rendered during the two months of dire need. He was one of the organizers of the Boy Scouts.

Every doctor in Chicago, particularly those in the 9th district, which embraces the north side from the Chicago river to Irving Park boulevard, should interest himself in the nomination of Dr. Farrell and his subsequent election. He would be an honor to the profession, and a powerful force for the public good.

#### DR. NANCE A CANDIDATE.

Dr. Willis O. Nance, alderman for the Sixth Ward in Chicago the past five years, announces that he is a candidate for member of the Board of Trustees of the Sanitary District on the Republican ticket at the primary, Wednesday, September 13.

Dr. Nance has been a very active member on several important committees of the City Council—Finance, Local Transportation and Health. On the latter committee he has been exceedingly active in the introduction of ordinances relating

to health and sanitary matters. Physicians, especially, will appreciate his efforts along these lines. As a member of the Board of Trustees of the Sanitary District he will be in a position to still further advance public health interests.

#### NOTICE.

Owing to the great increase in the cost of print paper the JOURNAL would ask the members sending in contributions, notices, society reports or other matter for publication to reduce them in length so far as is possible.

The increasing cost of paper is a question of serious concern to all publications. The ILLINOIS MEDICAL JOURNAL receives much material for publication which we would like to publish if space permitted. We have never had sufficient space to publish all that should have been published, and at the present price of paper it is not practicable to enlarge the JOURNAL. In fact, it may become necessary to reduce the size. In order that we may be able to publish as much as possible we ask the members to condense their manuscripts as much as possible.

#### DR. JAMES E. STUBBS.

In the demise of Dr. J. E. Stubbs the medical world lost a splendid practitioner, and humanity, a noble benefactor.

It is the old, old story coming up through the pangs of fighting one's way through college, standing at last in the great world where great events chase each other, and the door opens to the brave man. He was an enthusiast in his profession. His patient must be saved at any cost. To him humanity was above price, and many a struggling family has cause to bless him for the un-presented bill.

A careful student he was in his profession. His rich medical library and his support of medical journals attest his devotion to his calling. He was posted and progressive. New theories did not sweep him off his feet. What he adopted had been carefully weighed; nor was he slow to discontinue an idea because it, for the time, was unpopular.

He was state medical examiner for Illinois for the Royal Arcanum for nearly twenty-five years.

Men are apt to be narrowed by their professions, especially if they are enthusiasts. Not so with him. There were so many qualities rich and

generous that made him brother to all men. A lover of nature, nay, a devout worshipper of earth's grandeurs, for many years his vacations were spent in western Colorado, mountain climbing and trouting. Those crags and peaks will miss his bold climbing. Yet behind mountain grandeur and lovely scenery he found a resting place in the All-Father.

How he could be an omnivorous reader surprises one. His library is graced with biography, travel, history, noblest fiction, with which he was most familiar.

The great questions that affected his fellows made him an enthusiastic student, and where any were to be settled by ballot, he conscientiously gave his vote for the betterment of the race.

His home was all in all to him, and if anything earthly can be called paradise, that describes the life within the walls of his habitation.

For many years the cross statements of Bible students made him restless, but he struck the happy truth that God is outside of the Bible, while He may inspire it, and like a good God, He is giving His life to uplift humanity. There he rested.

For many years he was a member of a scientific club, in which he took an active part.

For fifty-two years his office was open, and though oft with faltering step, he was there to hear the call of the suffering. When he obeyed the last call his friends, devoted and loving, covered him with myriads of flowers he loved so well.

A member of the Phi Gamma Delta, cherished by its members, six stalwart youths bore his noble form to its last resting place.

Member of the Chicago Medical Society, Royal League, Royal Avenue Congregational Church, Plymouth.

CONTRIBUTED.

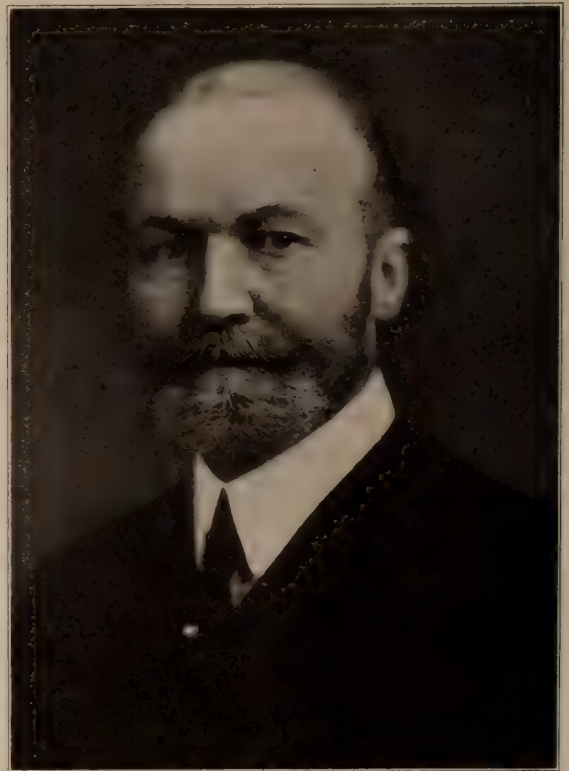
#### JOHN B. MURPHY, M. D.

Born December 21, 1857. Died August 11, 1916.

Who can realize that the restless, indomitable, willed, magnificent and commanding man, John B. Murphy, is dead? The announcement came with a shock and stunned our sensibilities beyond power to realize. In the passing of this brilliant man the profession, yea humanity, has suffered a severe loss, at a time when his career was at its fullness. There was no sign of decadence or that the sunset of his life was at hand.

Born in Appleton, Wisconsin, fifty-eight years ago, he early gave evidence of genius, and though his life seemed cut short, from the viewpoint of years, in achievement he had no peer in his generation.

It would be impossible in the scope of this short obituary to scan his achievements or review his honors. A pioneer and pathfinder, he blazed the way from epoch to epoch with the torch that genius ever carries, nor did he ever doubt his light which at once displayed and discovered new truths and illuminated old ones with the lightnings of his mind. Genius asks no confirmation



John Benjamin Murphy, M. D.

of its own vision. Under the inspiration of his teaching the dullard became a master and he ever imbued the student mind with a contempt for the "maxims of a low prudence."

High and serious minded, he ever pointed to the clear heights of surgical achievement and possibilities. He was easily the greatest debater in the profession, and to the fog of discussion he brought clarity and argument irresistibly convincing.

Who can ever forget that commanding figure of the amphitheater—the keen glance, the rapid



move, the incisive word, alert and sharp; intrepidly he worked, all the while uttering surgical truths and driving them home in a manner forceful, unique and distinctly his own. But sad to say this brilliant career was not without sorrows. Few were qualified to meet him on his exalted plane, and meeting there, found him irresistible in competition. He out-measured his rivals, though in the vicissitudes of life's contention not infrequently encountered the spirit which would debase the merit they could not contend with, or behold his

"March to Distinction's meridian height;  
While pale-eyed envy sees him climb  
And sickens at the sight."

but the feature of sorrow resulting from such disappointment added grandeur to his face.

His labors are over, as also his contentions. Death throws a pale cold light on the bier and achievements of this big man. Under these white rays the perspective and retrospective appear transfixed by a livid piercing distinctness, and the mountains of his achievement tower to our vision. New merits are seen and values beheld in increasing dimensions. "The Grave potentializes the Man."

Behold his operative skill; and added to the deftness of technique was the always present anxiety for his patient's safety. Wherever you look you see him the pioneer, on the surgery of the appendix; the Murphy button and cholecyst; enterostomy; intestinal anastomosis; compression and surgery of the lung; surgery of the nervous system; his work on the kidney; anastomosis of blood vessels; brain surgery; surgery of the bones and lastly surgery of the joints, excelling everything of the past. He had an affirmative intellect and a constructive mind.

He was a prolific writer and numerous of his monographs are consigned to immortality. As a teacher he was most impressive and held the important chairs in Rush Medical College, College of Physicians and Surgeons and Northwestern University in succession. All the high places in medical organization were his. President of the American Medical Association in 1910, the highest honor within the gift of the profession, president Clinical Congress of Surgeons of North America, president Chicago Medical Society, one of the founders and regent of the American College of Surgeons. All the important Medical and Surgical societies enrolled his name and numer-

ous honorary memberships were conferred not only in America, but also in England, Germany and France. Titles were conferred by Universities of Notre Dame, LL. D., University of Illinois, Catholic University of America, University of Sheffield, England, and lastly the Pope made him a Knight of the Order of St. Gregory the Great.

This tireless man worked on till the end and put more life in a single year than most men in a lifetime. Taxing his physical strength to the extreme in the intense pursuit of what his vision held before him until from fatigue and overwork he fell ill, as though with a crash, when on the afternoon of August 11—he was suffering—he was tired.

"God's finger touched him and he slept."

Dr. Murphy, souls of thy type shall not sink to dust, the words thou hast uttered, the work thou hast done, will live as long as medical and surgical history will be written and read, nor will the eroding finger of Time erase the record of thy genius.

In reverent mood I pay this tribute to thy memory.  
A. AUGUSTUS O'NEILL.

#### THE ILLINOIS STATE MEDICAL SOCIETY IN 1854.

The following letter of Dr. E. R. Larned accompanied a most interesting 112-page pamphlet, which will be highly cherished among the archives of the Society. The official list of members contained only 59 names, including eight in Chicago. The three official representatives of the profession in Chicago were H. A. Johnson, representing Cook County; N. S. Davis, Mercy Hospital, and D. Brainard, Rush Medical Society. That looks more like the English system than our present method of County Society representation. That the present organization may be traced to that meeting is indicated by the following resolution introduced by Dr. Davis:

"Resolved, That a committee of three be appointed to obtain the names of the regular members of the profession throughout the state, with their addresses; and to use their influence to procure the formation of County Medical Societies in all those counties where none exist."

Under the resolution the president appointed Drs. Samuel Thompson, of Albion; H. A. Johnson, of Chicago, and A. B. Chambers, of Toulon.

Another resolution of interest prohibited the

election to membership of candidates "in any way connected with, or interested in, the sale of patent medicines and nostrums."

That the annual meetings were intended solely for scientific purposes might be inferred from the resolution unanimously adopted as follows:

"That the Committee of Arrangements of this Society be instructed to omit preparing, or having prepared by the local profession, any general *entertainment* at the annual meetings of the Society."

Would not that account for a small attendance in these modern days?

The proceedings contain an announcement that Dr. Davis addressed the Society and the public on "The Physiological Effects of Alcoholic Drinks on Man, and their Value as Preventives of Disease." A further naive memorandum states that: "In the evening a very respectable audience assembled and listened with *diminished* interest for an hour and a half to the address of Dr. Davis." Possibly the reporter did not approve of Dr. Davis' well known advanced ideas on the effect of alcohol!

In the president's address referred to by Dr. Larned the makeup man shifted the only two plates in the book—an art that has not been quite forgotten to this day. Additional articles printed in the volume are: "Walking, the Primary Element in the Cure of Deformities of the Lower Extremities," by E. S. Cooper, of Peoria, and "Stimulants and Tonics," a prize essay by H. Parker, of Chicago.

We wish to express the thanks of the Illinois State Medical Society to Dr. Larned for his courtesy in presenting this valued volume.

Detroit, Mich., Aug. 24, 1916.

Dr. C. J. Whalen,

25 E. Washington St.,

Chicago, Ill.

My Dear Doctor Whalen:

I am sending to you under another cover a copy of a volume entitled, "Transactions of the Illinois State Medical Society—for the Year 1854."

In looking over a lot of old papers that I had carefully put away I ran across this volume, and after reading it was so much struck with so many interesting statements therein that I thought this book should be sent to you, as in your capacity as president of the Chicago Medical Society, and a former president of the Illinois

State Medical Society, I thought that you would be interested in reading an account of the meeting of the Illinois State Medical Society which took place sixty-two years ago, particularly in view of the fact that the president was Daniel Brainard, the founder of Rush Medical College, and I thought that you would be especially interested that the treasurer at the time was the famous N. S. Davis, of Chicago, one of the founders of the American Medical Association.

I think that everyone would be interested in the President's Annual Address, found on pages fifteen to thirty-eight, especially his remarks concerning the use of iodine solution in the treatment of infected wounds. Dr. Brainard's remarks are curious, considering that they were made in 1854, when it is borne in mind that the present method of treating infected wounds among the soldiers in the present war is by means of iodine solution. Very truly yours,

E. R. LARNED.

Department of Experimental Medicine, Parke, Davis & Co.

## Correspondence

Chicago, Aug. 17, 1916.

To the Editor: Kindly make the following announcement and oblige:

In the current prospectus of the Jenner Medical College my name appears as a member of the faculty. I wish to state that I am not, nor have I ever been, officially connected with the afore-said school. My name, as a faculty member, was used without my knowledge or consent and without any negotiations with the institution bearing upon a faculty position. My relations with the Jenner Medical College simply consist in my having consented to give a few special lectures on surgical subjects during the coming term.

Very truly,

G. FRANK LYDSTON.

## RESULTS OF THE PHYSICIANS' EXAMINATION HELD BY THE ILLINOIS STATE BOARD OF HEALTH IN CHICAGO

May 4, 5 and 6, 1916

Physicians—Present, 168; passed, 154; failed, 12; incomplete, 2.

### PASSED

College—	Year	Total No.
	Grad.	Passed
Bennett .....	1914(1), 1915(6), 1916(24)*	31
Boston Univ. Sch. of Med.....	1903	1



Chgo. Coll. M. & S.	1914(1), 1915(4), 1916(21)	26
Chgo. Hosp. Coll. of Medicine.....	1916	1
Hahnemann, Chgo.....	1916	4
Howard, Washington, D. C.....	1912	1
Jenner .....	1915	1
Meharry Med. Coll.	1911(1), 1914(1), 1915(1)	3
National Univ. of Arts & Sciences, St. Louis .....	1914	1
Northwestern .....	1915(4), 1916(13)	17
Rush .....	1911(1), 1916(22)	23
Univ. of Iowa (R).....	1890	1
Univ. of Ill.....		
.....	1910(1), 1911(1), 1914(1), 1916(41)	44

154

## FAILED

Bennett .....	1915	1
Chgo. Hosp. Coll. of Med.....	1915	3
Coll. of Med. & Surg., Chgo.....	1910	1
Detroit Coll. of Med.....	1904	1
Meharry Med. Coll.	1912(1), 1913(1), 1914(1)	3
Rush .....	1901	1
Univ. of Louisville.....	1911	1
Univ. of Penn.....	1906	1

\*In this table, large numerals in parenthesis, as (24), indicate number of candidates.

## UNITED STATES PUBLIC HEALTH SERVICE.

Congress has recently made an appropriation for thirty-three additional assistant surgeons in the United States Public Health Service. These officers are commissioned by the president and confirmed by the senate. The tenure of office is permanent, and successful candidates will immediately receive their commissions.

After four years' service assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Passed assistant surgeons after twelve years' service are entitled to examination for promotion to the grade of surgeon.

Assistant surgeons receive \$2,000, passed assistant surgeons \$2,400, surgeons \$3,000, senior surgeons \$3,500, and assistant surgeon-generals \$4,000 a year. When quarters are not provided commutation at the rate of \$30, \$40 and \$50 a month, according to grade, is allowed.

All grades receive longevity pay, 10 per cent in addition to the regular salary for every five years up to 40 per cent after twenty years' service.

Examinations will be held every month or so in various cities for the convenience of candidates taking the examination. Further information will be furnished by addressing the Surgeon-General, United States Public Health Service, Washington, D. C.

## TUBERCULOSIS NOTES

## OUT OF BED TREATMENT OF HEMOPTYSIS.

In many cases hemoptysis is arrested more promptly by allowing the patients to sit up quietly, propped up in a comfortable chair, than by keeping them in an absolutely recumbent position in bed. The erect pos-

ture diminishes the danger of aspiration. From the legion of medical remedies the author recommends calcium salts and intravenous injections of hypertonic saline solutions: for cough, codeine, not morphine. He reports a case in which a severe hemoptysis was promptly stopped on two occasions as soon as the patient got up from bed. No ill effects on the pulmonary condition.—*Zur Behandlung der Haemoptoe, Dr. W. Neumann, Zeitschrift fuer Tuberkulose, Dec., 1915, Bd. 25, H. I.*

## THERAPEUTIC PNEUMOTHORAX.

Sixty cases were treated at the White Haven Sanatorium for three years. In over 500 injections there was not one case of local or general infection, of operative death or serious symptoms due to the injection. The puncture is made with a Billroth aspirating-needle in the 8th, 9th or 10th space in the post-axillary line. Nitrogen gas is used. The first injection consists of 200 or 300 c.cm. and is repeated every fifth day, gradually lengthening the intervals as sufficient compression is established. The amount is increased up to 1000 c.cm. and the compression is kept up for six months, in some cases longer. The indications were as follows: 1. Progressive softening in one lung, the other lung being normal or showing no signs of activity or loss of function. 2. Relief of hemorrhage, especially marked hemorrhage with threatening symptoms. 3. Pleurisy, either dry or with effusion. Of the 60 cases, 12 could not be treated on account of pleural adhesions and one refused treatment. Of the 47 cases treated, 5 showed no improvement and 42, or 90 per cent., were improved. Of the improved cases, 10, or 23 per cent., are apparently cured and have been working for periods of several months to two and one-half years without symptoms. Seventeen have left the institution while improving and 15 are still under treatment. In hemorrhage and pleurisy the results were very good.—*Therapeutic Pneumothorax A. Armstrong, Penn. Med. Jour., 1916.*

## RELATION OF THE TEETH TO TB.

The examination of oral conditions in 297 cases of Tb. in a sanatorium showed: Bad condition of the mouth in 51 per cent.; bad condition of the teeth in 40 per cent.; bad condition of the gums in 51 per cent., and pyorrhea in 35 per cent. It is a question whether the tbc. disease and mixed infection in these patients arose through the condition of their teeth and gums or whether their tbc. condition affected the teeth and gums secondarily. It is assumed, at any rate, that a bad condition of the teeth and gums affords a good medium for the growth of the tubercle bacillus, which has often been found in teeth containing cavities. Sore teeth and tender gums may, moreover, be the cause of insufficient and ineffectual mastication. The author establishes a contrast between the general results obtained in the female and male patients in the sanatorium, the former being much more careful and obedient in the care of their teeth and gums than the latter. The male patients, placed under the same

treatment as the female, have not shown the same percentage of good results. The care and time spent by female patients in keeping their mouths clean has assisted materially in bringing about a marked improvement in their general condition. The tbc. patient with clean teeth and good gums has a better chance of quiescence or arrest of the disease than one in whom conditions in these respects are bad.—*Relation of teeth to tuberculosis, H. Freudenberger, Lancet-Clinic, March 11, 1916.*

## Public Health

### TYPHOID FEVER AT ELGIN.

The advantage of having a trained medical health officer on the job constantly for the purpose of preventing trouble as well as to meet sanitary and health emergencies has been demonstrated in Elgin, where there is now being experienced an extensive outbreak of typhoid fever among employes of the Elgin National Watch Company. Twenty cases were reported to the State Board of Health by the local health authorities on August 16, 17, 18 and 19. The explosive outbreak did not appear until August 16, but the danger signals which would have been significant to a medical health officer were in evidence as early as the first of July. Six cases of typhoid fever were reported in the last nine days of June, and four of these victims were employes of the watch factory.

Inasmuch as these reports were received by a lay health officer, it is not to be wondered at that the source of trouble was not suspected.

During the month of July there were eight times as many cases among employes of the watch factory as among other residents of Elgin, but this fact continued to be unobserved.

It was not until August 17th—when an epidemic was impending—that the assistance of the city physician, Dr. A. L. Mann, was sought by the health officer and within two or three days Dr. Mann determined the source of trouble to be in the drinking water supplied to the employes of the watch factory.

When a representative of the State Board of Health visited Elgin in response to the reports of the health officer the source of infection had been determined and the watch company was doing everything in its power to abate the prevalence of the disease, including free anti-typhoid vaccine for all its employes.

In entering upon his investigation, about the 17th of August, the health officer carried out bacteriologic water examinations proving that the drinking water furnished at the watch factory was entirely safe, but that the water supply for fire protection was highly polluted. When this was brought to the attention of the officers of the watch company a close search was made to find the intercommunication of the two water systems. It was ascertained that there were four or five points where the drinking water pipes and fire protection pipes came together, the two water supplies being separated by valves. A leaking valve was determined to be the source of trouble.

Upon learning these facts the two water services

were permanently discontinued and all pipes thoroughly flushed.

The sequence of events leading to this epidemic may be summarized as follows:

1. A leaky valve admitting the highly polluted water of the Fox river into the drinking water mains.
2. While the river was relatively high the dilution of the sewage was such that, with a comparatively small leak, the water was only moderately contaminated.
3. This resulted in numerous cases of diarrhea and a few cases of typhoid fever among more susceptible individuals, whose sewage added further to the amount of typhoid infection in the river above the water intake at the factory.
4. A low water stage of the river concentrated the infection and increased the amount of infection from earlier cases.

The attitude of the watch company has been characteristic of the increasing sense of responsibility common to manufacturing and industrial organizations of the higher type. The control of secondary cases has been much simplified by the offer made by the company to pay the hospital, nursing and doctor bills of all sick employes, insuring adequate protection against contact infections.

A control of the collective merits of sensitized and ordinary typhoid vaccines, in preventing typhoid in persons who have already received their infection, is being carried out at Elgin and the results will be watched with interest by the State Board of Health.

Whether or not a trained medical health officer would, in this case, have seen this impending epidemic when its first evidence appeared in June and July, it is impossible to say, but it is certain that a clear interpretation of the threatened calamity would have prevented the later epidemic, and this interpretation can only be fairly expected from the health officer of medical training.

### NEW CIRCULAR ON TUBERCULOSIS.

At the suggestion of a prominent Illinois druggist who holds that a large number of persons lose their opportunity of recovery from tuberculosis, while wasting time on cough remedies, tonics, consumption cures and other patent medicines, the State Board of Health is issuing a one-sheet circular giving the essential facts about the early diagnosis of tuberculosis in the briefest possible form. This little circular bears the caption, "Don't Wait Until You Are Sick—Delays Have Dangerous Ends," and warns against self treatment of colds, coughs, impaired appetite, indigestion, nervousness and other symptoms which are so frequently forerunners of tuberculosis. The circular also contains illustrations of the correct and incorrect way of examining a patient and the reader is reminded that a careless examination is worse than no examination at all, but that he should submit cheerfully to being stripped for examination, to the taking of a prolonged case history and to all such tests as the physician may desire to make.

The druggist who suggested this circular advises



the State Board of Health that he would cheerfully present a copy of such a folder to all persons desiring to purchase cough cures, catarrh cures or other patent medicines and that it was his conviction that the better class of druggists throughout the state would gladly do likewise.

This new folder will be supplied without cost to all druggists and others who desire to take effective part in the warfare against tuberculosis.

#### NEW CARDS FOR EPIDEMIC INVESTIGATIONS.

The State Board of Health has recently prepared cards for use in investigations of outbreaks of typhoid fever, small-pox, diphtheria and scarlet fever. While these cards are intended primarily for the use of the state epidemiologist and the district health officers, they will be supplied, upon request, to any health officer who desires to use them. While these cards will be of great convenience in the investigation of outbreaks of the diseases as mentioned, they are almost indispensable in tracing sources of infection of sporadic cases.

The modern conception of communicable diseases is that they are truly "communicated" from one person to another. The up-to-date health officer is not satisfied to attribute sporadic cases of scarlet fever to the fact that "A tin horn which father blew while he had scarlet fever thirty years ago had been brought down from the attic a month before last." The statement that "the child got diphtheria from the offensive privy vault across the alley" takes his credence beyond its limits. He does not believe that small-pox comes from manure piles nor typhoid fever from pig pens, although admitting the secondary role these two may play in producing flies.

The real question with the health officer is "where is the case of scarlet fever or small-pox from which this patient acquired the disease? Is it a case I already have in quarantine, a case I released too early or is there an unrecognized or unreported, and therefore unrestricted case or carrier at large in the community?"

These are the questions he must answer and in proportion as he is able to answer them correctly he is able to apply the proper methods for control. The prompt investigation of the sources of contagion is the essential of communicable disease control.

The cards just issued by the State Board of Health, when properly filled out, provide information as to the location of the individual, source of milk supply, school attended and so on and, for each disease, the particular information which the sources and modes of infection of that disease demand.

Death, so-called, is a thing that makes men weep, and yet a third of life is passed in sleep.

The excesses of our youth are draughts on our old age with interest about thirty years after date.

Nothing so much prevents our being natural as the desire of appearing so.

God gives every bird its food, but does not throw it into the nest.

Few persons have sufficient wisdom to prefer censure, which is useful to them, to praise, which deceives them.

Self-love is not so vile a sin as self-neglect.

A man who cannot mind his own business is not to be trusted with the king's.

The most manifest sign of wisdom is continued cheerfulness.

The drying up a single tear has more honest fame than shedding seas of gore.

No man is at all times wise.

People seldom improve when they have no other model but themselves to copy after.

They do not love who do not show their love.

To cure is the voice of the past. To prevent, the divine whisper of today.

I hardly know so true a mark of a little mind as the servile imitation of others.

Happiness is a perfume you cannot pour on others without getting a few drops on yourself.

Keep your fears to yourself, but share your courage with others.

A man should never be ashamed to own that he has been in the wrong, which is but saying in other words that he is wiser today than he was yesterday.

Youth is the best time for improvement.

A man is worth only as much as he is worth to his fellow men.

No man deserves to be praised for his goodness unless he has strength of character to be wicked.

Life is not so short but there is always time for courtesy.

It costs more to maintain one vice than ten virtues.

The darker the day the clearer the call for you to shine.

## Auto Sparks and Kicks

### IF YOUR PUMP DOESN'T MEASURE CORRECTLY

UNITED STATES BUREAU OF STANDARDS SAYS  
MOST OF THEM DON'T AND TELLS WHY.

Gasoline pumps in service show a tendency toward undermeasurement, according to F. J. Schlink, assistant physicist of the United States Bureau of Standards.

Results of the tests in the field indicate that pumps in service show a decided tendency toward undermeasurement, this being due to the fact that nearly all of the defects of construction or installation tend to produce errors in this one direction. These include leaks of air and liquid, retention of liquid by the hose, vapor formation consequent upon excessive suction head, failure to complete the full stroke, and slippage of liquid past valves and piston.

#### WHY PUMPS UNDERMEASURE.

The principal causes of short delivery of pumps of the piston type are leaking of foot valves, and formation of vapor or air space under the piston, resulting from excessive virtual suction lift or leaky piping, or piping containing traps tending toward the periodical retention of vapor. It appears that a total vertical suction lift greater than seven feet may be excessive with the ordinary commercial (not "blended" or casing-head") gasolines. "Casing-head" or "blended" gasoline should not be lifted any appreciable vertical distance on the suction side in those types of pumps in which the piston and cylinder form the measuring element, on account of the vaporization difficulty already mentioned. Special installations, in which the pump is located at or near the level of the supply tank, should be employed for the last mentioned grades of gasoline.

Another source of error which should be guarded against in design and installation of piston measuring pumps is the inertia of the moving liquid column.

#### THE CARE CHAINS SHOULD HAVE.

To the ever energetic Jackson people is due the following excellent and timely advice: "The user of chains should take care to see that they

are properly applied. They should be loose enough to creep or work around the circumference of the tire. Otherwise chains will soon ruin the tires. Chains really should not be used on lumpy non-skid tires for the reason that the projections do not permit them to creep and they put the tire beyond the useful point in a short time. If chains are used for a day or so and then removed for a time, they should be allowed to dry before being put into a bag. If mud or ice clings to them, remove it by heating the chains on the floor of the garage. Handled this way the metal has little chance to rust badly. At least one set of chains should always be carried with the car, because they may be needed badly when you are miles from home."—*Motor Print.*

#### AVOID LONG HOSES.

The use of long filling hoses and of hoses so arranged that they cannot be readily drained results in cases of short delivery to individual purchasers; this should be obviated by so relating the length of hose and the height of hose connections that the hose can always be readily drained to a definite level. A measuring pump should not be installed inside a building with the hose connection outside, unless so arranged that the manner of operation of the pump is clearly visible to the purchaser. The writer also questions the advisability of permitting the use of a shut-off cock on the outer or delivery end of the hose, as its use may readily operate to prevent the regular drainage of the hose into the customer's tanks.

#### THE "FUEL-LESS" AUTO!

"What do we care how high the price of gasoline goes," said the wit. "See this ad? 'Efficiency Carburetor,' saves 50 per cent of the gasoline, and over here, 'Save-It Mixer,' saves 50 per cent. Just get one of each and you won't have to buy any gasoline."

#### TIME TO DISCARD AN OLD TIRE.

An automobile tire should wear out and not blow out. When an otherwise good casing must be discarded because of blowouts it means that the fabric is not as durable as it should be. The fact that inner liners increase the usefulness of a tire means that the fabric foundation is not as strong as it should be.



# THE UNITED STATES PUBLIC HEALTH SERVICE ASKS DO YOU

Believe in national preparedness and then  
Fail to keep yourself physically fit?

Wash your face carefully and then  
Use a common roller towel?

Go to the drug store to buy a tooth brush and then  
Handle the entire stock to see if the bristles are right?

Swat the fly and then  
Maintain a pile of garbage in the back yard?

## DO YOU KNOW THAT

Bettter wages make better health?  
Better health makes better citizens?  
Better citizens make a better nation?

The U. S. Public Health Service found 78 per cent  
of the rural homes in a certain county unprovided  
with sanitary conveniences of any kind?

Cholera is spread in the same manner as typhoid  
fever?

Scarlet fever kills over 10,000 Americans each year?  
Hookworm enters through the skin?

He who builds up health lays up treasure in the  
Bank of Nature?

Think all you speak, but speak not all you think.  
Thoughts are your own, your words no more.

The first ingredient in conversation is truth, the  
next good sense, the third good humor, and the fourth  
wit.

## Society Proceedings

### FULTON COUNTY.

The seventy-sixth meeting of the Fulton County  
Medical Society was held in the auditorium of the  
Y. M. C. A. building in Canton, July 27, and was called  
to order by Vice-President Simmons at 2:00 o'clock.

Drs. C. G. Turner and C. N. McCumber were elected  
members.

Dr. Adams, as chairman of the committee to confer  
with the supervisors, reported that nothing had been  
accomplished. The committee had found two or three  
localities in the county where the physicians were  
charging the same as the present county fee bill, which  
placed the committee in the position of asking from  
the county a higher fee than was being asked by phy-  
sicians in their general practice. On the request of  
the committee the president named Dr. C. E. Howard  
on the committee as an additional member.

Dr. H. H. Whitten of Batavia presented "Some  
Obstetrical Problems," Dr. W. L. Crouch "A Case of  
Trichinosis," and Dr. C. G. Turner "The Relation of  
Diseased Tonsils to Other Systemic Diseases."

These interesting papers were freely discussed.

Thirteen members were present.

Drs. Snively and Adams moved a vote of thanks to  
Drs. Whitten, Turner and Crouch for their valuable  
papers. Carried.

Drs. Adams and Scholes moved adjournment to an  
ice cream parlor at the secretary's expense. Carried.

D. S. RAY, Secretary.

### JO DAVIESS COUNTY.

The Jo Daviess County Medical Society met at the  
DeSota House, Galena, July 11, at 1 p. m., proceeded  
by auto to the ferry landing and from thence to Camp  
19 by ferry. Meeting called to order by the presi-  
dent, A. T. Nadig, at 2 o'clock. Nine members and six  
visitors present.

After dinner the application for membership of J.  
Rodge of Apple River was read and referred to the  
censors.

A committee to draw up the following resolutions  
for Dr. A. F. Bucknam of Warren, whose death  
occurred May 4, was appointed:

*Necrology of Dr. A. F. Bucknam of Warren, Ill.,  
and Resolutions of Respect.*

WHEREAS, It has pleased the Almighty Father in His  
Supreme Wisdom to remove from our midst by death,  
our brother, Dr. A. F. Bucknam, a wise and good phy-  
sician, a faithful and efficient member of our society,  
therefore be it

*Resolved*, That in the death of Dr. A. F. Bucknam  
this society has sustained an irreparable loss, that the  
members will mourn the loss of a brother who was  
ever ready to proffer the hand of aid and the voice of  
sympathy to the needy and distressed, a friend and  
companion who was dear to us all, a citizen whose  
upright and noble life was a standard for emulation  
by his fellows, and be it

*Resolved*, That the sympathy of this society goes  
out to the children deprived of the love of a most  
exemplary father, and be it further

*Resolved*, That a copy of these resolutions be spread  
upon the records of this society, and one transmitted  
to the bereaved children of our deceased brother.

DR. A. T. NADIG,  
T. J. STAFFORD,  
D. G. SMITH.

Dr. D. F. Downing read a most interesting paper on  
"Carcinoma Toxin (Newell): Its Use in Post-Oper-  
ative Cases of Carcinoma," which was ably discussed  
by Drs. D. G. Smith, Schrup, Leitzel, Snyder and Bench.

Dr. T. J. Holke then gave a very appropriate paper  
on "High Blood Pressure," which was discussed by  
Drs. Leitzel, Schrup, Logan and Snyder.

Dr. J. H. Schrup's paper on the "Inter-Relation of  
Pelvic and Abdominal Pathology" was exceedingly  
instructive and was discussed by Leitzel and Downing.

Dr. K. F. Snyder concluded by reading a most mod-  
ern and interesting paper on "The Cure of Tuberculo-  
sis of the Spine by Means of Bone-Grafting." Paper  
was discussed by Leitzel, Schrup and Holke.

.After the discussions the society adjourned, all agreeing that the meeting had been a huge success.

Lunch was served at 5:30.

A. T. NADIG,

President.

T. J. STAFFORD,

Secretary.

### MACOUPIN COUNTY.

The Macoupin County Medical Society met in the M. E. Church at Scottville, July 25, and was called to order by President M. McMahon of Palmyra.

The minutes of the last regular meeting were read and approved. The treasurer's report was read and on motion was approved.

At this meeting it was finally decided to change the time of the meetings from quarterly to bi-monthly meetings.

Dr. F. A. Renner of Benld, who had been elected president at the last meeting, was inaugurated president, Dr. G. E. Hill of Girard, vice-president, and Dr. T. D. Doan of Scottville, secretary-treasurer.

Dr. F. Renner, in his inaugural address, gave the following:

*Gentlemen:* In accepting and assuming this office I desire to express to you my thanks for the honor conferred, and to assure you my best efforts will be given to build up and maintain the usefulness of the Macoupin County Medical Society.

In these, my few remarks, I desire to emphasize the value which we as members of the profession could obtain were we more firmly united in our struggle against disease and suffering and could we eliminate the commercialism which too often controls our actions.

Let us endeavor to treat each other as colleagues and not as opponents; I can think of no more discouraging event than to make your regular call on a patient, probably one in whose recovery you are greatly interested, have spent hours of study and worry, to find in your absence a "colleague" has been called in, has examined the patient and left medicine or prescription and stated he would call again, at that time knowing you had not been discharged from the case.

I have in mind some of my neighboring physicians who, if called into a case of mine, in my absence, either refuse to prescribe or if they do, leave a note with instructions that it be given to the attending physician on his next call. Others insist on the attending physician being called, the case is talked over and the last called physician collects a fee as consultant and all are satisfied.

Let us in future bind ourselves closer together, working for the upbuilding of our profession, not endeavoring to undermine the other fellow, but if he is wrong, using every effort to put him right with the patient, the family and himself.

Quoting an article from one of our journals, "The best rule of ethics is that of simple right and wrong—the Golden Rule." He who carries this in his heart and invariably acts upon it has little need of written codes. Such a one is not a wolf whose actions must be regulated by law, whose preying upon his fellows must be restrained within such limits as protect the

pack in general, but he is a God-fearing, Christian gentleman, or its full equivalent, who does what he feels to be right, not for fear of punishment or of detection, but because he has trained himself to do so as a matter of course, to keep his self-respect.

He desires to say truthfully, when he comes to face Eternity, that he has never knowingly wronged any human being nor neglected an opportunity of benefiting others; and, if he can do this, whatever his creed, he may fearlessly step off into Infinity, to meet a just God.

In closing I desire to urge each member of our society to be willing to do his part in whatever way may prove beneficial to himself and to our society.

I desire to congratulate my predecessor, Dr. McMahon, for the growth in interest and benefits of our society. His has been a successful administration, but we must not stand still nor fall back; therefore, let us strive to build up our society, knowing that we grow with it. Your officers realize how little they can accomplish without co-operation on the part of the members.

Therefore, I urge the members to strive for better attendance, in every way to make our work a success. Again I thank you.

The Ladies' Aid Society of the Methodist church gave an elaborate country dinner to thirty-four physicians and their guests, which was highly complimented by all who were so fortunate as to be present at the repast.

A rising vote of thanks was given to the ladies for their success in preparing such a feast of fried chicken, pies, cake, ice cream and other good things which completed the feast.

Dr. F. P. Norbury of Springfield gave an address on "Early Recognition of Mental Disorders."

Dr. G. H. Stacy gave a brief resume of a paper previously published in the *Journal A. M. A.*

On motion the society thanked both physicians for their interesting addresses. This meeting was one of the most successful in the history of the society, over forty being present at the meeting.

T. D. DOAN, Secretary.

### MADISON COUNTY.

#### *The July Meeting.*

This meeting was held at the Alton State Hospital, July 7, and was the best attended meeting in the history of the society. The hospital site is a charming place to hold a meeting and the management, profuse in its hospitality, knew how to make every one feel at home.

Dr. John C. Helper of Wood River was elected to membership. Bills for the care of patients at the Harrison Tuberculosis Colony to the amount of \$97.50 were paid out of the fund created by the sale of Red Cross Seals.

Fred J. Kern, president of the State Board of Administration, gave an address on "The Scope and Purpose of the State Institutions," which was full of practical information, and the large audience gave undivided attention to the words of the speaker.



Dr. Frank P. Norbury of Jacksonville read a paper on "Individuation in the Treatment of Nervous and Mental Disorders." It was one of the most scholarly and scientific papers ever presented to this society, clearly demonstrating that in the treatment of mental affections the patient must be regarded as an individual and not one of a class. By vote the paper was ordered sent to the ILLINOIS MEDICAL JOURNAL for publication.

Short addresses were also made by Mayor Edmond Beall of Alton, and Judge B. R. Burroughs of Edwardsville. The latter was a member of the board when the hospital site was purchased.

Mr. Kern, in his address, told his hearers that the act creating the Alton hospital limited the admissions to 1,500, and he advocated an amendment by which this provision would be eliminated. He said that by reason of its situation in a most populous portion of the state this hospital had very good prospects of becoming the largest hospital in the state, and for this reason the limitation in regard to admissions ought to be removed. On motion of Dr. Haliburton each member was requested to write to the legislators from this district, soliciting their aid in securing this amendment.

A substantial and elegant lunch was served, for which a vote of thanks was given to the Board of Administration. Also a vote of thanks was tendered to the distinguished speakers for their presence and for their efforts in securing us an interesting and instructive program.

Thirty-two members and twenty-five visitors were present.

#### *The August Meeting.*

The average doctor is only human after all and the boys of the profession in Madison county like a little diversion from the everyday grind as well as the boys of younger years. Dr. M. W. Harrison arranged a musical program for our August meeting held at the Harrison Tuberculosis Colony at Collinsville. A high grade concert was given by the ladies of the Orpheus Club, composed of society matrons and young ladies of Collinsville. Nine numbers were given and it would be very difficult to tell which was the best or the most appreciated. All sang and played like professionals and many a doctor's heart beat just a little faster as some familiar strain vibrated in unison with a memory chord in the deepest recesses of his soul, reminding him probably of a time long ago when his whole time was not engrossed with pills and powders. The program was highly appreciated and the doctors were duly grateful.

In the absence of the president and vice-president Dr. W. H. C. Smith of Godfrey was called to the chair.

Seventeen members and twenty-eight visitors were present.

Dr. Harrison expressed his appreciation to the ladies of the Orpheus Club for their entertaining effort and a vote of thanks was also tendered them by the society. Elegant refreshments were served by

Dr. and Mrs. Harrison and a vote of thanks was tendered them for their efforts in making this an entertaining and enjoyable occasion.

Adjourned to meet in Highland on the first day of September, 1916.

#### OGLE COUNTY.

The Ogle County Medical Society met in Stillman Valley, July 16, at 1:30 p. m. Meeting was called to order by President Griffin. Minutes of the last meeting were read by the secretary and approved. Seventeen members and visiting guests: Dr. E. S. Murphy, Dixon; H. M. Starkey, Rockford; Emil Windmueller, Woodstock, and Representative Attwood of Stillman Valley were present.

It being the regular meeting for the election of officers the following officers were duly elected: President, A. H. Beebe of Stillman Valley; vice-president, J. A. Johnson of Byron; secretary-treasurer, J. T. Kretsinger, Leaf River; delegate, J. M. Beveridge of Cregan; alternate, J. C. Akins of Forreston; censor, W. E. Kittler of Rochelle.

Program: Dr. H. M. Starkey of Rockford read an excellent paper, "The Influence of General Infection on Diseases of the Eye." This paper was ably discussed by Drs. Windmueller, Beveridge and Beebe, Dr. Starkey to close.

Dr. Louis Thexton of the Park Avenue Hospital, Chicago, was expected to address the society. He started from Chicago by automobile that morning, but rain and worlds of trouble prevented his getting further than Sycamore, much to the disappointment of both Dr. Thexton and the society.

Dr. Emil Windmueller of Woodstock gave a short talk in explanation of the new organization, "The Confederation of Medical Societies of Northern Illinois and Southern Wisconsin," and advised all members of local societies to become members of the new association. A good program was promised for a two days' meeting to be held at Freeport the latter part of September.

Dr. H. H. Davis of Monroe Center and Dr. A. W. Chandler of Rochelle were voted into the society as members.

No further business to come before the society the meeting adjourned to meet at Rochelle the third Wednesday in October, 1916.

DR. J. T. KRETSINGER, Secretary.

#### Personals

Dr. W. E. J. Michalet, Chicago, has removed his office to 31 North State Street.

Dr. J. Howard Beard, Urbana, has been appointed health officer of the University of Illinois.

Dr. Daniel F. Hayes, who has been at work for a year in Etaples, France, with the Murphy unit, has returned.

Dr. Norman MacL. Harris of the University of Chicago has been made captain in the Canadian Army Medical Corps.

It is reported that the estate of Dr. John B. Murphy totaled \$1,250,000, of which all but \$250,000 is in realty.

Dr. Nathan S. Davis, III, has been commissioned first lieutenant Medical Corps, and assigned to Battery C, First Illinois Artillery.

Dr. Karl F. Snyder, of Freeport, has discontinued general practice and is devoting himself to general surgery, consultation and office practice.

Dr. Adolph Hartung and Dr. Maximilian J. Hubney, Chicago, desire to announce the dissolution of their partnership, effective September 1, 1916.

Capt. George L. Lipshulch was appointed camp surgeon at Camp Dunne, Springfield, August 7, succeeding Lieut.-Col. Jacob Frank, mustered out of the federal service.

Dr. W. E. Buehler of Chicago is said to resemble Charles Evans Hughes so strongly that when he appeared near the Hughes special car he received an ovation.

Dr. Harry W. Ackermann, Rockford, Captain, M. C., Ill. N. G., assigned Third Illinois Infantry, has been obliged to return from the southern frontier on account of illness.

One of the physicians accused by the *Chicago Examiner* of swindling a foreigner when examining a child for infantile paralysis, has brought suit against the paper. As stated in the August JOURNAL, both physicians were exonerated.

Richard T. Crane, in a telegram to Mayor Mitchell of New York, announces a gift of \$25,000 to the individual who may offer the best cure for infantile paralysis, or the best solution to that problem, within a year.

---

### News Notes

—Dr. Karl Meyer, warden of Cook County Hospital, finds that practically all the patients with heat prostration there were alcoholic.

—Dr. Arthur L. Blunt, arrested for the eleventh time for selling habit forming drugs

illegally, August 23, is reported to have gone on a "hunger strike" till meal time.

—The State of Illinois, on August 5, became officially free from foot and mouth disease and on that day the last quarantined farm in Christian County was released from restrictions.

—On July 21, the secretary of agriculture ordered release from tuberculosis cattle quarantine for Lake, McHenry, Kane, Dupage and Cook counties, effective August 1. The quarantine has been in force since October, 1914.

—Dr. C. A. Peterson, of Moline, who with his wife made a trip to Washington, D. C., in a Ford car, equipped with a Moline auto bed in four days, was "shot" by the Pathe operator in Washington and will appear in the movies.

—The Augustana Hospital has purchased property at Garfield Avenue and Sedgwick Street, 379 by 267 feet. It is proposed to erect a hospital building to cost from \$200,000 to \$300,000 on the site.

—The Chicago Municipal Tuberculosis Sanitarium, through a staff of forty-two physicians, will conduct an extensive study of the tuberculosis problem throughout eight square miles, including the congested areas where tuberculosis is more prevalent.

—On August 22 the typhoid cases in Elgin totaled thirty-one. Dr. A. L. Mann, city physician, reported that the source of the contagion had been discovered in the water used by employees in a large local manufacturing plant. Dr. E. S. Godfrey is making an examination for the state board of health.

—New rules governing the examination for "practitioners other than licensed physicians" go into effect September 1. The new rules for these "other practitioners" require a high school training and four full years of technical work for full credit on the point of education preparation. There are at present about 1,800 "other practitioners" licensed in Illinois.

—A reporter interviewed ten prominent Chicago men on the question of how much vacation was advisable for business and professional men. The ideas were almost as numerous as the interviewed. One physician ventured the opinion that "two weeks to a month" should suffice. Others preferred a few days at a time. The majority advocated longer vacations as age increases.



—The State Board of Health has issued a pamphlet, brief and clearly expressed, giving information and advice regarding acute anterior poliomyelitis, together with an abstract of the rules and regulations of the board regarding the disease. Copies of this pamphlet may be obtained on application to Dr. C. St. Clair Drake, executive officer of the State Board of Health, Springfield.

—A meeting was held, August 21, to form a base hospital unit, comprising the Augustana, St. Joseph's and St. Mary's hospitals. Thirty men from the staffs of the three hospitals attended the meeting. The complete staff will include forty-six physicians, fifty nurses and fifty Red Cross assistants. The institutions were represented by Drs. A. J. Ochsner, E. H. Ochsner, Austin A. Hayden, Charles McKenna, P. J. H. Farrell and S. R. Pietrowicz.

—At a conference between Judge Scully, the county commissioner, and the members of the State Board of Administration, July 27, it was voted to place under the charge of Dr. Harold D. Singer and assistants the Psychopathic Hospital, at the disposal of the state for experimental work. The establishment of a farm colony for morons and feeble-minded, and for the arrest and cure of all drug addicts, were also recommended by the conference.

—Dr. George W. Crile, Professor of Surgery in Western Reserve University, on August 25 gave an illustrated lecture before the Graduate School in Medical Sciences of the University of Illinois, Chicago. His subject was "Exhaustion and Restoration." On August 31 Professor C. R. Bardeen, Dean of the Medical School of the University of Wisconsin, gave a lecture before the same school, his subject being "Study of the Anatomy of the Heart in the Living by Use of the X-ray."

—The commissioner of health of Chicago and Dr. A. Augustus O'Neill have appointed a committee to undertake research on infantile paralysis. The members are: Dr. M. Herzog, chairman, and Drs. K. Meyer, H. B. Thomas, A. Hoyne and A. K. Armstrong. Other physicians have been appointed as an advisory committee. At a preliminary meeting, it is stated, the committee outlined a plan of investigation, and agreed that the work should not proceed until sufficient funds are forthcoming.

—A Confederation of County Medical Societies of Northern Illinois, Southern Wisconsin and Eastern Iowa will hold its first annual meeting at Freeport, September 26-27. An elaborate program has been prepared by the committee in charge, Drs. W. B. Peck of Freeport, A. J. Markley of Belvidere, A. C. Helm of Beloit and W. E. Park of Rockford, President W. L. Noble and President-elect Coolley of the Illinois State Medical Society, Drs. Sippy, Evans, Dudley and Bevan of Chicago and Dr. Judd of Rochester, Minn., will appear among others on the program.

—The Morgan-Cass County Medical Society held its annual picnic at the farm of Dr. Carl E. Black, in Cass County, August 17. The special guests of the occasion were Dr. and Mrs. William J. Mayo, Rochester, Minn. Dr. Mayo made an address on "Surgical Treatment of Stone in the Kidney." Dr. William F. Braasch, Rochester, Minn., spoke on "Clinical Observations of Stone in the Kidney." The members of the Central Illinois Clinical Surgical Association were also guests of the society and took part in the proceedings.

---

## Marriages

---

EDWARD JOHN MILLER, M. D., to Miss May Janice Shannon, both of Chicago, July 26.

FRANK GILLINGHAM MORRILL, M. D., to Miss Mabel Nortrup, both of Havana, July 29.

PHILIP HARMAN BROUDO, M. D., to Miss Estelle Pruzan, both of Chicago, August 16.

BERTRAM ARTHUR RICHARDSON, M. D., to Miss Ethel Wyllie, both of Emington, Ill., July 5.

SAMUEL WHEELER MCKELVEY, M. D., Kankakee, Ill., to Miss Anna McCumisky of Anna, Ill., at East St. Louis, July 19.

---

## Obituary

---

John Benjamin Murphy, M. D., Chicago, Rush Medical College, 1879; aged 58, died at Mackinac Island, Michigan, August 11, from aortitis.

Dr. Murphy was lecturer on surgery at Rush Medical College 1884 to 1887, professor of Clinical Surgery, College of Physicians and Surgeons, 1892 to 1901; professor of Surgery, Northwestern University Medical School, 1901 till his death,

with the exception of 1905 to 1908, during which time he was professor of Surgery in Rush Medical College. He was also for many years professor of Surgery in the Post Graduate Medical School, Chicago; chief of the surgical staff of Mercy Hospital, 1895 till his death; member of attending or consulting staff of Alexian Brothers' Hospital, St. Joseph's and Columbus Memorial Hospital and the Hospital for Crippled Children; for several years attending surgeon for Cook County Hospital. He was a fellow of the American Medical Association, orator in Surgery in 1898 and president of the Association in 1910.

## Deaths

PETER JOSEPH ROWAN, M. D., Chicago; University of Toronto, Ont., 1870; aged 69; a Fellow of the American Medical Association; died at his home, July 29, from pneumonia.

GEORGE W. GOODNER, M. D., Chicago; Northwestern University Medical School, 1869; aged about 75; died at his home in Chicago, in May, from the result of accidental burns.

JAMES H. ROSE, M. D., Harrisburg, Ill.; Medical College of Evansville, Ind., 1878; aged 68; a member of the Illinois State Medical Society; died at his home, August 14, from heart disease.

OMER C. SNYDER, M. D., Chicago; Chicago Homeopathic Medical College, 1884; aged 60; while on a fishing trip in northern Wisconsin, died near State Line, Wis., August 6, from cerebral hemorrhage.

EDWARD F. BUECKING, M. D., Chicago; Bennett Medical College, Chicago, 1876; Louisville (Ky.) Medical College, 1877; aged 59; formerly a Fellow of the American Medical Association; died in his apartment in Chicago, July 29, from heart disease.

E. C. TROUTT, M. D., Birds, Ill.; St. Louis College of Physicians and Surgeons, 1907; aged 32; a Fellow of the American Medical Association; a member of the Illinois State Medical Society; died at his home, August 11, from rapid progressive muscular atrophy.

FRANK HAMMETT HOLT, M. D., Chicago; Harvard Medical School, 1899; aged 47; a Fellow of the American Medical Association; superintendent of the Michael Reese Hospital, Chicago; formerly assistant superintendent of the Boston City Hospital; died in Michael Reese Hospital, August 3, from nephritis.

ALBERT T. MOBLEY, M. D., New Columbia, Ill.; Kentucky School of Medicine, Louisville, 1880; aged 70; formerly a Fellow of the American Medical Association; also a druggist; who served in both the army and navy during the Civil War; died in a hospital in St. Louis, July 29, after a surgical operation for the relief of disease of the kidney.

MELVILLE GEORGE McHUGH, M. D., Chicago; Creigh-

ton Medical College, Omaha, 1900; aged 38; formerly a member of the Illinois State Medical Society; a specialist on tuberculosis and connected at one time with the Tuberculosis Hospital at Dunning; died in the Swedish Covenant Hospital, Chicago, July 24, from peritonitis following a surgical operation.

WILLIAM ABBOTT PHILLIPS, M. D., Evanston, Ill.; Harvard Medical School, 1887; aged 55; a member of the Illinois State Medical Society; at one time lecturer on comparative anatomy in Northwestern University Medical School, Chicago; curator of the ethnologic museum of Northwestern University; a member of the American Association for the Advancement of Science; an archeologist of repute; chief of the medical staff of the Evanston Hospital; died at his home in Evanston, July 24.

SPENCER JOSEPH WAY, M. D., Kankakee; Rush Medical College, 1872; aged 65; a Fellow of the American Medical Association; member of the Illinois State Medical Society and the Kankakee County Medical Society; died at his home in Kankakee after an illness of two years, July 30. Nearly the whole of Dr. Way's life was spent in Kankakee. His kindness, generosity and philanthropy made him a host of friends, who mourn his departure. Strictly ethical with his professional brethren, keenly interested in his work, and, from every viewpoint, a true and trusty physician.

## NEW AND NON-OFFICIAL REMEDIES.

During August the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

The Abbott Laboratories: Arbutin-Abbott.

National Pathological Laboratory: Mercurial Oil—National Pathological Laboratory.

E. R. Squibb and Sons: Mercury Red Iodide, 1 per cent., in Oil, Squibb, Barium Sulphate—Squibb for x-ray work. Liquid Petrolatum—Squibb.

Fibrin Ferments and Thromboplastic Substances (Kephalin).—The clotting of blood has been shown to be due to the action of the fibrin ferment on the fibrinogen of the blood. The fibrin ferment (thrombin) exists in the blood in the form of prothrombin which is converted into thrombin by the action of calcium and thromboplastic substance (thromboplastin). Kephalin, prepared from the brain, has the properties of thromboplastin. Preparations containing thromboplastin are said to be useful, when applied locally, in the treatment of hemorrhages, especially hemorrhages from oozing surfaces, scar tissue and nose-bleeds. The intravenous use of thromboplastin in certain conditions has also been proposed.

Brain Lipoid.—Impure Kephalin.—This is an ether extract of the brain of the ox, or other mammal, prepared according to the method of Howell and Hirschfelder. It has the properties of thromboplastic substance described above. It may be applied direct to the tissues or on sponges or pledgets, or



it may be used in the form of an emulsion with sodium chlorid solution.

**Solution Brain Extract.**—**Solution Thromboplastin.**—Hess.—An extract of ox brain in physiologic salt solution prepared by the method of Hess. It has the properties of thromboplastic substances described above. The solution may be applied directly to, or sprayed on the tissues or by means of a sponge or tampon.

**Galactenzyme Tablets.**—Tablets containing a practically pure culture of *Bacillus bulgaricus*. For administration in intestinal fermentative diseases. Put up in bottles containing 100 tablets each and bearing an expiration date. The Abbott Laboratories, Chicago.

**Galactenzyme Bouillon.**—A pure culture in vials of *Bacillus bulgaricus* each vial containing about 6 Cc. Used internally for intestinal fermentative disorders and topically in nasal, aural, throat, urethral and other affections when the use of such a culture is indicated. Put up in packages of 12 vials each. The Abbott Laboratories, Chicago.

**Ampules Mercuric Salicylate.**—Squibb, 0.065.—Each ampule contains 0.065 Gm. mercuric salicylate, N. N. R., in 1 Cc. of sterile suspension. E. R. Squibb & Sons, New York.

**Ampoules Quinine Dihydrochloride.**—Squibb, 1 Gm.—Each ampule contains 1 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

**Ampoules Quinine Dihydrochloride.**—Squibb, 0.5 Gm.—Each ampule contains 0.5 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

**Ampoules Quinine Dihydrochloride.**—Squibb, 0.25 Gm.—Each ampule contains 0.25 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

**Ampoules Quinine and Urea Hydrochloride.**—Squibb, 1 Gm.—Each ampule contains 1 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

**Ampoules Quinine and Urea Hydrochloride.**—Squibb, 0.5 Gm.—Each ampule contains 0.5 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

**Ampoules Quinine and Urea Hydrochloride.**—Squibb, 0.25 Gm.—Each ampule contains 0.25 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

**Ampoules Quinine and Urea Hydrochloride.**—Squibb, 1 per cent.—Each ampule contains 5 Cc. of a sterile 1 per cent. solution of quinine and urea hydrochloride, N. N. R. E. R. Squibb & Sons, New York.

**Ampoules Sodium Cacodylate.**—Squibb, 0.13 Gm.—Each ampule contains 0.13 Gm. sodium cacodylate, N. N. R. E. R. Squibb & Sons, New York.

**Ampoules Sodium Cacodylate.**—Squibb, 0.05 Gm.—Each ampule contains 0.05 Gm. sodium cacodylate, N. N. R. E. R. Squibb & Sons, New York. (Jour. A. M. A., Aug. 5, 1916, p. 437.)

**Arbutin.**—Abbott.—A non-proprietary brand complying with the standards for Arbutin N. N. R. The

Abbott Laboratories, Chicago. (Jour. A. M. A., Aug. 19, 1916, p. 586.)

**Ampules Mercury Iodide (red) 1 per cent. in Oil.**—Squibb.—Each ampule contains 1 Cc. of a solution of red mercuric iodide and anesthesin, each 0.01 Gm., in a neutral fatty oil. E. R. Squibb & Sons, New York. (Jour. A. M. A., Aug. 19, 1916, p. 586.)

## Book Notices

**DIAGNOSIS AND TREATMENT OF SURGICAL DISEASES OF THE SPINAL CORD AND ITS MEMBERS.** By Charles A. Elsberg, M. D., F. A. C. S., Professor of Clinical Surgery at the New York University and Bellevue Hospital Medical College. Octavo of 330 pages, with 158 illustrations. Philadelphia and London: W. B. Saunders Company. 1916. Cloth, \$5.00 net.

This volume takes up in a special way work that has heretofore been briefly given in the general works upon surgery, or which has not been given at all. The author has limited himself strictly to his subject, and general surgery of the spinal column has been left untouched, as he deals strictly with the spinal cord and its membranes. The one hundred and fifty-eight illustrations are of especial merit and add greatly to the value of the book, showing much of the technique which would be difficult of description. The book will be of interest only to those who are doing spinal surgery.

**THE MEDICAL CLINICS OF CHICAGO.** Volume II, Number I. (July, 1916). Octavo of 220 pages, with 41 illustrations. Philadelphia and London: W. B. Saunders Company. 1916. Price per year: Paper, \$8.00; cloth, \$12.00.

This number of the Medical Clinics of Chicago is rather more interesting than usual. Some very interesting cases of diabetes are discussed by Dr. Tice. The clinic of Dr. Abt and the discussion on "Feeding the Normal Baby" are timely and especially valuable, as is the contribution by Dr. Brophy on "Oral Infections."

The topics and clinicians in this number are as follows: The Use of Digitalis, by Arthur R. Edwards, M. D.; Diabetes with Complications, by Frederick Tice, M. D.; Diabetes and Surgery, by Solomon Strouse, M. D.; Vomiting, by M. Milton Portis, M. D.; Several Nervous Diseases, by Ralph C. Hamill, M. D.; Osteomyelitis, by Charles L. Mix, M. D.; Feeding the Normal Baby, by Isaac A. Abt, M. D.; Oral Infections, by Truman W. Brophy, M. D., D. D. S.; A Mediastinal Tumor, Multiple Tubercular Serositis, A Case of Bronchiectasis, A Case of Cerebrospinal Meningitis, by Charles Spencer Williamson, M. D.; The Principles of Fluoroscopy of the Stomach by James T. Case, M. D.

**PRACTICAL MASSAGE AND CORRECTIVE EXERCISES.** By Hartvig Nissen, President of Posse Normal School of Gymnastics; Superintendent of Hospital Clinics in Massage and Medical Gymnastics; For Twenty-Four Years Lecturer and Instructor of Massage and Swedish Gymnastics at Harvard University Summer

School; Late Director of Physical Training at Boston and Brookline Public Schools; Former Instructor of Physical Training at Johns Hopkins University and Wellesley College; Former Director of the Swedish Health Institute, Washington, D. C., etc.; Author of "Swedish Movements and Massage Treatment," "Practical Massage in Twenty Lessons," "A. B. C. of Swedish Educational Gymnastics," "Rational Home Gymnastics," etc. Revised and Enlarged Edition of the Author's "Practical Massage in Twenty Lessons," with many additions. With 68 Original Illustrations, Including Several Full-page Half-tone Plates. Price, \$1.50 net. F. A. Davis Company, Publishers. Philadelphia.

In this little book the author describes and illustrates his methods of practical massage and corrective exercises as he applies them to various diseases or pathologies. The volume is of more benefit to the masseur than to the physician, although the physician may have an interest in the detail of the work.

**A TEXT-BOOK OF PRACTICAL GYNECOLOGY FOR PRDCTI-TIONERS AND STUDENTS** BY D. TOD GILLIAM, M. D., Emeritus Professor of Gynecology in Ohio State University College of Medicine, and Sometime Professor of Gynecology, Starling Medical College, Gynecologist to St. Anthony and St. Francis Hospitals; Consulting Gynecologist to Park View Sanitarium, Columbus, Ohio; Fellow of the American Association of Obstetricians and Gynecologists; Member of the American Medical Association, of the Ninth International Medical Congress, etc., and by Earl M. Gilliam, M. D., Professor of Diseases of Women in the Ohio State University, College of Medicine, Columbus, Ohio, etc. Fifth revised edition. Illustrated with 352 engravings, a colored frontispiece, and 13 full-page half-tone plates. Price \$5.00 net. F. A. Davis Company, publishers, Philadelphia. English depot, Stanley Phillips, London. 1916.

The fifth edition of this work is intended for students' use and for a working text for the general practitioner. The author has taken pains with his descriptions and text matter, so that the book might be easily read and understood. Three hundred and fifty-two illustrations make the text more valuable. The work covers a large field, but does it in a brief and concise manner.

The book will be of value to the busy practitioner rather than to the specialist, and is as its title implies, a practical gynecology. We recommend it to the student and to the general practitioner.

**VENESECTION.** A brief summary of the practical value of Venesection in disease. For students practitioners of medicine. By Walton Forest Dutton, M. D., Fellow American Medical Association; Member Medical Society of the State of Pennsylvania, Allegheny County Medical Society; Ex-President Carnegie Academy of Medicine; Pennsylvania Society for Prevention of Social Disease; American Association for the advancement of Science; American Academy of Political and Social Science; International Congress on Tuberculosis, etc. Illustrated with several text engravings and three full-page plates, one in colors. F. A. Davis Company, publishers, Philadelphia. English depot, Stanley Phillips, London. 1916. Price \$2.50 net.

A few years ago it seemed that venesection was a lost art, and that it had been discarded, but of late it

is being more employed, and while it will undoubtedly never have the popularity it once enjoyed, it is again assuming its normal place in our armamentarium. It was the great therapeutic agent of the early practitioner of medicine. In this book the author discusses its use in certain disease where it may be used therapeutically and with success.

A correct understanding of the value of blood letting, together with a knowledge of its therapeutics, will undoubtedly renew many of its former applications and prove of value to many patients. The author has tried to teach its value in many diseases and conditions, and the book should prove valuable.

**BACTERIOLOGY, GENERAL, PATHOLOGICAL AND INTESTINAL.** By Arthur I. Kendall, B. S., Ph. D., Dr. P. H., Professor of Bacteriology in the Northwestern University Medical School, Chicago, Ill. Octavo, 651 pages, with 98 engravings and 9 colored plates. Cloth, \$4.50 net. Lea & Febiger, publishers, Philadelphia and New York. 1916.

This text by Dr. Kendall is primarily a work for students, but is also admirably fitted to the uses of the laboratory worker. The chapter on intestinal bacteriology is of especial merit. Throughout the work emphasis is laid on what the bacteria do, rather than on what they are, since interest naturally is centered in the host rather than in the parasite. Concise statement, clear expression and the elimination of theoretical considerations in favor of essentials are characteristics of this work, and its usefulness will impress itself more and more on the practitioner or student as he avails himself of its guidance.

The author's emphasis on the applications of bacteriology in etiology and preventive medicine is a point of value. The sections dealing with the physiological functions of bacteria are most enlightening, and the latest knowledge of complement fixation, hemolysis and the reactions of immunity is adequately presented.

**THE TREATMENT OF DIABETES MELLITUS, WITH OBSERVATIONS UPON THE DISEASE BASED UPON ONE THOUSAND CASES.** By Elliott P. Joslin, M. D., Assistant Professor of Medicine, Harvard Medical School; Consulting Physician, Boston City Hospital; Collaborator to the Nutrition Laboratory of the Carnegie Institution of Washington, in Boston. Octavo, 440 pages, illustrated. Cloth, \$4.50 net. Lea & Febiger, publishers, Philadelphia and New York. 1916.

In a time not long gone by a diagnosis of diabetes was equivalent to a prognosis of an early fatality. While the disease is still frightful as regards its fatalities, it is not now considered entirely hopeless. The work of Dr. Joslin will go far toward helping the practitioner prolong the lives of his diabetic patients.

The work is based on the treatment of one thousand cases by the author, and the experience of many other coworkers. The Allen treatment of diabetes is given fully and discussed. Complications of diabetes are described, together with their treatment. There is a chapter on surgery in diabetes which will prove of value to the surgeon. Every practitioner of medicine will feel repaid in obtaining a copy of this book.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXX

CHICAGO, ILL., OCTOBER, 1916

No. 4

## Original Articles

### THE OBLIGATION OF THE STATE TO THE GROWING CHILD.\*

CHARLES J. WHALEN, M. A., M. D., LL. B.  
CHICAGO.

The relation of the State and the child is broad and close; the obligation between the two is a reciprocal one. Under our system of government the State in the interest of self-preservation demands an educated citizenship; an equally essential condition of useful citizenship is physical health.

If the State has by the enactment of laws compelling the attendance at school provided for the education of the child, not merely for the child's sake, but as a measure of self-protection, it is also bound to take cognizance of its physical welfare for the same reason. One can go further; the State is responsible not only for the sound body, so far as it can supply the needs for its development, but for the sane mind as well.

Anything that contributes to the physical well-being of the race is no small factor in the promotion of social content. So that when we speak of steeling the growing body of the child with strength by removing physical impediments, we are insuring that child a sturdy physique, also insuring society against the cost of supporting non-producing units in almshouses, hospitals, prisons and asylums.

Education today should attempt to raise the social order to a higher material, mental and ethical plane. State inspection of school children which is merely precedent to the correction of the physical defects, will through the medium of compulsory health reduce sickness, misery, destitution, crime, all of which are sequelæ in the order named. Health is a neces-

sary complement of communal economy. Should one single member of society be rendered unproductive through complete or partial reduction of his physical or mental vitality society as a whole suffers. Society must therefore assume the obligation of caring for its non-producing through its producing units by taking a share of the proceeds of its producing parts and contributing it to its economically pauperized member.

Vigorous intellectual activity is possible only through the medium of brain cells that are well nourished and physiologically active. Any system of education which ignores the physical development is faulty. Proper care of the children in infancy and childhood tends for efficiency in adult life.

In our large cities especially the desired physical status of the children has not been attained. We find many poorly born, poorly housed and fed, deformed or defective in one or more respects, with little in their environment to produce self-supporting, self-respecting citizens.

Poverty, ignorance and uncleanness have much to do with the life of the child before and after birth. The first may be avoidable; the second a matter of personal choice, and the third may be imposed; frequently they are all accepted as the way of least resistance.

Poverty blights the mind, weighs down the spirit and opens the way for all manner of evil influences to the mother. As a result the child is presented to the world under conditions which preclude even ordinary care; again, uncleanness opens the door to disease. Ignorance also may be a sourceful cause of disease and depraving conditions.

After disease has developed the doctor may suggest proper methods of care for the child; that is putting the cart before the horse.

For most physical defects can be prevented if recognized sufficiently early and the proper corrective procedure applied, and if done at the proper time the child's intellectual development

\*Read before the Public Health Section of the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

will be allowed to proceed without detriment or hindrance.

The State, recognizing the importance of this factor, should assume the obligation to provide the opportunity to needy children that remedial defects may be properly treated. Picture if you can these handicapped, defective and discouraged children drifting into hopelessness and despair, because the State, as its legitimate guardian and protector, overlooks and neglects its needs.

In the years of early childhood how often are the seeds of disease sown? The delicate tissues are easily warped or injured by long continued mental or physical efforts and for this reason children are often injured by injudicious school-work.

Note with what avidity parents push out the "tiny tots from the home into kindergartens." The task is set; lessons are to be learned; attention demanded; the care-free natural spirit curbed and repressed. So early, in fact in real infancy, are the routine duties of real life imposed. The eyes are on strain, the nerves are on tension, the muscles are set in stated attitudes; all of this that the tot may leave the mother care-free, less frequently because of the desire to have the child learn something. This is all wrong mentally, physically and morally. If the children were not put into school until seven years or older the nervous wrecks in after life would be fewer.

Neither parent nor State has a right to rob the child of its care-free childhood. As a prophylaxis against future ills, it will but conserve his energy for the battle of life, when allowed to refrain from school work until the age mentioned. Then he will be sufficiently hardened to carry on school work without physical or mental injury and will invariably outstrip the child who began school learning at four or five years of age.

The State has a vital relation to the child in yet other ways. After he becomes of a school age it is necessary that his life be guarded in every way. The general health should be looked after, and the earlier in school life his or her need of special attention can be discovered the more perfectly will all interests connected therewith be served. Equally important as guarding against contagion and infection are the conditions to which children are subjected in location, architecture, lighting, heating, ventilation and seating provisions for recreation and environ-

ment of the school buildings. Supervision for this purpose is but a step closer to the study of influences which work for good or ill of the child subjected to them. The less tangible nature of these influences when they are of a faulty character make it more difficult to point to them as the direct cause of ill health in the pupils.

In Chicago in 1915, 87,099 children were examined and 21,730 were excluded from school because of contagious diseases.

Physical examinations of 79,383 school children found 37,356 defective and 32,860 were advised to seek treatment. A tabulation of the defects of 35,166 pupils shows the following: Malnutrition 804, anemia 2,639, enlarged glands 7,970, goiter 1,556, nervous diseases 340, cardiac diseases 414, pulmonary diseases 68, skin diseases 701, orthopedic defects 171, rickets 372, defective vision 7,837, other diseases of the eye 1,076, defective hearing 663, discharging ear 372, defective nasal breathing 2,603, defective palate 971, defective teeth 22,711, hypertrophied tonsils 11,777, adenoids 4,489, tonsils and adenoids 4,350, mentality poor 1,196, fair 8,586.

According to Dr. Wood of Columbia College, New York, a nation-wide investigation of the children in the public schools of both city and rural districts shows that there are 20,000,000 children in the public schools at present.

As long as the youngster does not actually get sick or die we assume that he is well, but the fact is, that 75 per cent. of these children—that is, fifteen million of them—need attention for physical defects sufficiently grave to seriously threaten health, usefulness and even life in later years; that 5 per cent. of children have a tendency toward tuberculosis, and the disease is easily evolved in them.

Five per cent. have flat foot, spinal curvature or other deformities sufficiently grave to interfere with health. Five per cent. have defective hearing. Twenty-five per cent. have defective vision; thirty per cent. suffer from malnutrition; fifty to ninety-eight per cent. have defective teeth, which interferes with health; thirty per cent. have adenoids, enlarged tonsils or cervical glands needing attention. The loss to the world through physical inefficiency is absolutely incalculable.

In Boston sixty-five per cent. of the children have physical defects requiring treatment; of those having defects needing treatment eighty-



seven per cent. of the defects are of the teeth, throat, nose or ear. Pages and pages of statistics could be cited, but surely the above is sufficient to show clearly the importance of State supervision of the growing child.

Twenty per cent. of all who drop out of school do so because of ill health. Those having removable physical defects make ten per cent. slower progress through school than the children who are not so handicapped.

To illustrate, take a child who is somewhat deaf; it fails in its studies and is obliged to repeat its grade, losing time and place and, lacking a certain esprit de corps due to this loss of rank, he gives up then or when he reaches his fourteenth year, reasoning that he cannot hope to graduate at the usual age.

Very few realize what retardation alone costs the State, and this quite outside of self-depreciation engendered by the realization of the unfitness for the race of life.

The "repeaters" (children in one grade over one year), as given by Leonard P. Ayers, are estimated to cost \$27,000,000; and this necessarily leaves out of the count the ultimate effect upon the mentality of the child, of the moral degeneracy often ending in vice and crime that so frequently overtakes the victim of enforced idleness or uncongenial occupation.

Having demonstrated that numberless defects exist among our school children, in not correcting these conditions the State is denying them the first essential of social competency. The physical condition of the child which precludes the orderly educational process from functioning properly, conduces to a low degree of efficiency. These social denials make for incompetency, which later produces dependency, waste and misery. The care of the defects will undoubtedly help to reduce and prevent poverty; it will assuredly do much to check the possibility of later destitution.

In a personal examination of 100 backward school children who were unable to concentrate the attention I found 92 revealed adenoid growth with diseased tonsils. All had diseased or defective teeth and in the 8 not manifesting adenoids and tonsils there was pronounced nasal obstruction.

Disease of the faucial tonsils and of the adenoid tissue has long been recognized as an important predisposing and causative factor in the

physical and mental retardation in the child.

Judge Mack's "straight road from adenoids to the penitentiary" is not an exaggeration.

Kyle states: "In 90 per cent. of cases of adenoid vegetation there is involvement of the eustachian tube with deafness in varying degree." The education of many a child has been rendered difficult or entirely stopped because he or she could not hear the instructions as the other children did. This shows where the difficulty frequently begins. Inability to hear is discouraging; speech is limited and mental development is thereby stunted. Called a stupid child, he soon becomes vicious. The loss to the community in money wasted in attempts to teach such a child and the future untrained mind which so readily becomes criminal is untold.

A constant hyperpyrexia is likely to be present whenever this hypertrophied condition exists. In other words the child is at all times more or less septic.

The alterations in the bony structures of the face and thorax caused thereby appear early, as does malnutrition and lessened resistance to disease.

The retardation in mental development is caused by the continued sepsis as well as the mechanical obstruction and resulting reflex irritation. The difficulty in breathing further adds to the discomfort and gives rise to inability to concentrate attention.

Widespread infection of the teeth of school children is a large factor in causing delinquency, manifesting itself not alone in the dental health of the individual child but asserting itself in general physical disorders, the miscarriage of the educational economy, the imperfect preparation of the child for life, the general lowering of the vitality, rendering the plastic child especially susceptible to disease while impairing its prospect of future efficiency. Neglect of the teeth means deformity of the jaw, inefficient mastication, a source of constant supply of toxic material and foci of disease which may even threaten life.

As a result of continuous action of these undermining factors the child is unable to apply himself to his studies, he soon falls hopelessly behind his classmates and casts about for other means to keep his mind occupied, thereby getting himself into mischief of various kinds. His school duties becoming hateful to him, he becomes truant and finally, coming into conflict

with the authorities through his desire for constant change and excitement, ends in the Juvenile Court and reformatory.

If adenoids and enlarged tonsils cause respiratory disability, which in turn render the child less amenable to instruction and accordingly results in the loss to the child of the opportunity to learn a skilled trade or profession, the child will suffer from the intermittency of unskilled employment and its concomitant low wage. Under these circumstances adenoids and enlarged tonsils are enemies of the social order.

If decayed teeth are a predisposing factor in an attenuating disease such as tuberculosis, the cost of housing our tubercular unfortunates is not only costly from the material point of view but hopeless from the human aspect.

Having clearly shown that the hypoplastic child, fundamentally unstable, and still further handicapped by deafness, enlarged tonsils and adenoids with their attendant train of evils, is prone to respond in an exaggerated degree to faulty environmental influences of all kinds, is it not the duty of the State and society to give the child the most careful study and attention so as to insure the advancement of which he is, in a great number of instances, capable?

The early discovery of the dull and backward and the defective child and their segregation for special training is the duty the State owes the child as well as society.

There are schools for crippled children, the blind, the deaf and mentally defective. Here and here alone can such youth be made self supporting. In America 250,000 children are said to drop out of the schools each year because of physical disabilities. To hold a large per cent. of these in school will be the function of the State in the future. Instead of sitting quietly by and seeing this process of race destruction going steadily on we should be up and doing in the way of discovering and eradicating the causes that are blighting the vitality and vigor of the race in the early years of life.

It has been argued that the principle which provides for free treatment for physical defects of school children is not sound. This is based upon the reasons that it is not the duty of the State to provide such treatment; that it tends to pauperize the recipients and that through indifference, poverty and neglect the causes of these unfortunate conditions arise; through public

treatment a premium is put upon parental inefficiency and it tends to aggravate conditions by relieving parents of responsibility.

A certain number of physicians are disturbed by this institution, fearing lest the examining physician, being called on to place on the record the results of the periodical examinations that he makes, may in some way prejudice the ordinary physician of children.

The examining physician is to put on the record only the findings of his own examination, enabling him to determine that the general health of the child (weight, height) is or is not satisfactory; that certain symptoms or apparatus (lymphatics, teeth) are or are not normal; that certain organs (eye, ear) are functioning well or ill. Thanks to these regulations, the school physician will be able, without defining either the nature or the cause, to inform the parents that the growth of the child is not good, that its general health is poor, that the functioning of certain organs is defective. At the same time he will point out the necessity of having the child examined by the family physician, who alone can establish the diagnosis and institute the treatment. Thus the parents will be given the opportunity to submit the child to examination by their family physician and entrust it to his care, which they would in all likelihood not have done, or would have done too late, if they had not been warned in time by the school physician.

The examining physician has no further control to exercise either in regard to diagnosis or treatment.

In Chicago experience has shown that parents are able and willing to care for their children once their attention is called to conditions which require treatment. The widespread prevalence of physical defects among school children of all classes does not call for the usurpation of the parents' obligations. The average citizen is not supposed to be versed in medical, dental and hygienic affairs about which no effort has been made until the present time to provide information; and the present system of informing parents of defects, of explaining to them the necessity of having these defects corrected, has an educational value.

Children whose parents can afford to pay for private treatment should go to private practitioners whose livelihood depends upon such pro-



fessional service. Investigation has shown that in the case of defects there are so many poor children who cannot pay for treatment that unless clinical provision is made for them they will receive no attention whatever. Therefore, the facilities whereby they may avail themselves of these benefits to the utmost should also be provided for the reason that the return in social efficiency incident to putting children in good physical condition more than offsets the cost of caring for the children later in life when the results of social neglect have accumulated and left them with chronic disorders. Neglected children are apt later in life to become unproductive citizens who must be taken care of by society.

Is it not better for society, to say nothing of the benefits to the individual, if the State comes to the assistance of those whose parents or guardians are unable to provide for corrective treatment at a time when something can be done towards remedying defects, than to be called upon later to provide large sums for the construction and maintenance of hospitals, reform schools and jails?

Now that medical research has discovered that malnutrition, anemia, stomach ailments, facial neuralgias and scores of abnormal conditions frequently have their origin in adenoids, diseased tonsils and unhygienic mouths, the correction of these is beginning to be recognized as indispensable agents of the public health movement.  
25 E. Washington St.

#### THE USE OF CLEAN, RAW COW'S MILK IN THE FEEDING OF INFANTS.\*

GRACE H. CAMPBELL, M. D.,  
CHICAGO, ILL.

More has been written and said concerning artificial feeding during the past ten years than all other pediatric subjects combined.

Having studied natural feeding, we should have a fairly practical knowledge of the quantity and quality of food required at different ages, and also the time and method of feeding. That we should keep close to nature both in the composition and physical properties of the food, seems hardly necessary to state. Yet we see infants fed (?) on compounds differing so widely from

those which their organs are prepared to digest that it is surprising so many survive.

The stomach of the infant at birth is found to be little more than a receptacle for food in which the action of rennet coagulating the milk prepares it for the first step in the digestive process.

As the infant grows the capacity of the stomach increases rapidly, its walls thicken, the glands develop and pepsin and hydrochloric acid secretions gradually become more abundant. It is not, however, until after the sixth month that the salivary and pancreatic secretions develop to any great extent the power of converting starch into sugar.

This conversion is necessary before cereals may enter largely into the food, as nature has made little or no other provision for the digestion of starch.

During the latter half of the first year the stomach empties itself of a digested meal in two or three hours, the time depending upon the quality of the food taken. The fat content of the milk regulates the time required for complete digestion.

That a very large percentage of the food is absorbed in the normal infant normally fed, is shown by analysis of the feces. As a result of observations upon infants fed wholly upon milk, it is stated that the feces consist of 84 to 86 per cent water; that digestion and absorption of proteids in the alimentary canal is so efficient that but little is lost.

Cow's milk, on account of its cheapness and the abundant supply, is the most available substitute for mother's milk. The proneness to stomach disorders and the great mortality among bottle-fed babies has led to a systematic study of cow's milk.

It has been proved that milk production may be so guarded as to furnish a product comparatively free from bacteria. As an example of what scrupulous care and cold can accomplish in producing bacteria-free milk may be mentioned the exhibits of a number of American dairies at the Paris exposition in 1904. Milk and cream were shown that remained sweet for several days after the journey of ten days or more. The officials found it hard to believe that no preservatives had been added or treatment given until convinced by analysis and by proof.

The same care in the selection of the cow is recommended as in the selection of the wet nurse;

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

the same details in her hygiene, as well as in the aseptic care of the milk, will insure milk that is practically sterile.

In the choice of the family cow three requisites at least should be kept in view. First: The quality of the milk. Second: The constitution of the animal, her hardihood and freedom from disorders and her adaptability to variations in climate and food. Third: Her temperament and freedom from disturbances due to accidental causes.

In the best of cows, however, the milk varies from time to time in quantity and in quality under the changing influences of food, care and surroundings, so that the popular idea of the great value of a "one cow's milk" supply for the baby is erroneous. The mixed product of a herd secures a greater uniformity in the quality and percentage of constituents. In many communities certified milk is obtainable. Certified milk is produced under the supervision of a Medical Milk Commission appointed by a regularly organized County Medical Society. Certified milk means the best and cleanest raw milk on the market. Only healthy cows are used to produce certified milk. All dairy barns must be sanitary in construction, with special regard to light, ventilation, and general cleanliness.

Only healthy employes are permitted on the farms producing certified milk. All utensils must be kept scrupulously clean and sterilized before using. Milk is cooled to 45 degrees F. and bottled immediately in sterilized bottles and bottles packed on ice.

The selection of the dairyman should depend upon his known methods of handling his herd and its products. Does he select his cows upon the above enumerated principles? Is his herd regularly inspected and tested by a competent veterinarian for evidences of tuberculosis or other diseases? Are the animals properly fed, watered and pastured? Are they comfortably housed in stables that may be cleaned daily and regularly painted or whitewashed? Are the milkers kind, intelligent, healthy, clean, and conscientious? Is the cow cleaned and her udder washed before each milking? Are the first few streams of milk discarded and the remainder received in a sterilized pail through a cover of sterilized cotton and cheese-cloth? Is the milk immediately strained, cooled to 45 degrees F., bottled, and within 20

minutes placed in a cooler well iced, and kept cool until delivered to the consumer?

Rapid cooling and refrigeration are fully as important as cleanliness in the production of safe milk, for the few bacteria which are present in even the most carefully-cared-for milk multiply with enormous rapidity at 70 degrees F., while they increase only five-fold in 24 hours in milk kept at 50 degrees F.

The cold, sealed bottle when received at home must be placed at once in a clean refrigerator (free from taint or odor of other food or vegetables) and kept securely stoppered. The refrigerator should be kept at least as low as 50 degrees F. This point should be tested with a thermometer.

Milk received in good condition is not infrequently rendered unfit for infants' food by careless handling in the home. The bacteria, which, by their growth, render the milk unsafe, are present everywhere: in the air, in every particle of dirt, in water, on the hands and clothes, on all utensils and vessels. No utensil, spoon or receptacle should be used which has not been sterilized. Milk once poured out should never be returned to the bottle, nor should remnants ever be used. Flies (common carriers of infections) must be religiously excluded.

The practice of keeping the baby's food warm, as in thermos bottles, for emergencies is entirely wrong, as it favors the development of any bacteria present and spores which it may contain.

In the artificial feeding of infants, the protection of the supply will ever continue to be the most important consideration.

There are many methods and systems for dilution and modification of cow's milk to best suit it for the digestive apparatus of the infant.

The method which for popularity and elasticity excelled most others is the American percentage method of modified milk. In the use of this method of modified milk, there are many formulæ calculated to meet the requirements of the infants of various ages and conditions. This led to a super refinement of formulæ and complications which the average mother was unable to carry out, so that the popularity of this system is now on the wane. It had the great advantage of establishing the necessity of careful measurement of food given to the baby and led to detailed study of the effect of the various ingredients of milk on the infant.



During the past twenty years many systems have come and gone. These may be summed up as follows:

1. Simple dilution of cow's milk by the addition of water. In this method there is no attempt made to change the composition of the food to more resemble human milk.

2. The modification of cow's milk in some manner that there is obtained a mixture like human milk so far as the gross chemistry is concerned.

3. Dilution of cow's milk with the addition of sugars or starches to increase the carbohydrate content of the food.

4. The addition of a chemical, either to render the food alkaline or to affect the curd, so that the milk coagulates in fine, rather than coarse tough curds.

Each of these several measures has a distinct place in the feeding of infants.

No one method can be relied upon to meet the conditions as found in each individual child.

For a time there was a feeling that the change from breast feeding to artificial feeding was of no especial moment, but the more experience one has in feeding many infants the greater the hesitancy to allow substitute feeding so long as there is a possibility of supplying the natural food. There is an element of experimentation in prescribing any food which is new to the digestive tract in a normal or abnormal child.

In the feeding of infants it is necessary that a certain amount of intelligence be used in advising a food for a child. The dogmatic use of any method must be disastrous for the child that is hard to feed. The percentage method of feeding does not demand that the various percentages should be obtained in mathematical exactness. It is best to consider the percentage method as a rule of thumb by which approximate percentages may be obtained. It is neither necessary nor of practical advantage to have the various percentages carried out to a nicety. It is of far greater value to recognize the condition of the digestive capacity for the various food components so as to realize the food elements that are causing the digestive disturbance.

However, it must be borne in mind that the mere fact that the bowel movements show undigested food is not to be interpreted that the food given is an improper food for the child; it may simply mean that there are more of certain

constituents given than the child has capacity to digest and if the food be persisted in there will be a development of capacity to an extent that will enable the child to digest the food, bearing in mind that abnormal constituents in the bowel movements are danger signs, and if these conditions persist with other manifestations of digestive stress then the food elements at fault must be radically lowered.

It is usual, when lowering any food component, to lower to the extreme minimum and then slowly increase the percentage at intervals of about three days, watching for signs of limit of capacity as shown by changes in the stools, restlessness, gas, pain, or temperature.

Milks containing various percentages of cream are used as starting point in various formulæ.

In a quart bottle (32 ounces) of clean, raw, fresh milk that has stood for at least six hours and has not been changed by heat, it is found that the top ten ounces has approximately a ten per cent. butter fat; the top sixteen ounces (one-half the bottle) has about seven per cent.; the top twenty-four ounces contains five per cent., and the lower twenty-four ounces or skimmed milk contains about one per cent. butter fat. These percentages are based upon a milk containing four per cent. fat, and when milks of a higher or a lower fat percentage are used there may be found some variations from these figures. The practice of heating milk may have a distinct effect upon the fat content at any of these levels, as the cream in milk that has been heated to a temperature of 165 degrees F. does not rise.

It is evident from the above that by a selection of the portion of milk taken from the bottle the desired ratio between the fat and the proteids can be easily obtained, as there is no change in the percentages of the proteids or sugars at the different levels.

In the top ten ounces the fat-proteid ratio is two and one-half to one; in the top sixteen ounces the ratio is two to one; in the top twenty-four ounces three to two; while in skimmed milk or lower twenty-four ounces the ratio is one to three and one-half. In whole milk it is about one to one.

The home modification of milk will best be carried out by the use of the desired fat content of milk rather than by the addition of cream. The constituents of cream are not so regular as those found in milk and it is always true that the

bacterial content of cream is much higher than that in the milk. From an economic consideration this is also advisable, as one quart bottle of milk in 24 hours is all that is necessary for the infant up to six months of age. The infant deprived of the milk from the mother should have the best quality of milk available. Where "certified milk" is to be obtained, prudence demands that such milk be used. It will be found economy to pay the advanced price necessary for the "extra care."

The feeding of the normal infant is the mere bringing to the child of a food which in a general way meets the requirements as laid down under the "essentials."

In first putting a child upon an artificial diet the usual procedure is to use a food low in all the constituents, bearing in mind that the over dilution probably in no way makes a food any more completely digested but simply renders the food more tolerable.

It is seldom necessary to give a milk dilution greater than one part of milk to one of diluent used. Where there is an apparent necessity for greater dilution a close study will disclose a digestive disturbance caused by one or another of the food components, when it will be advisable to lessen or omit that constituent and increase the other food components.

No fixed, arbitrary rule can be given for all children. Careful observation of the infant as to whether he rejects some of his food soon after taking it or seems hungry half an hour after feeding, may prove a guide. The best indication that he is receiving his full equivalent is a steady weekly gain of two or more ounces in the early months.

The components may be changed from time to time as necessity requires. If it seems desirable to lower the fat content the top twenty-four ounces or even skimmed milk may be used; if on the other hand an increase in the fat is contemplated the top ten ounces could be substituted. The proteids may be decreased by a further dilution, using a higher fat content milk, thus only changing the proteids; the proteids are raised without changing the fat content by using a milk with a lower fat. The sugar is raised and lowered the same as the proteid or by the addition of any one of the sugars.

In the feeding of an infant a great deal of very valuable information is to be obtained by very careful observation. Many points of great importance may thus be brought out which will shed much light on the digestive capacity of the child. One important element is to find, what, if any, food agrees with the child. If a working knowledge of the composition of this food is had, then one has a working basis. This one item frequently is the element between success and failure, as it is the haven of refuge in times of stress.

The purpose is to manage the food in such a way as to develop the digestive power of the baby so that he is able to take whole milk at the end of six months. It has been proved that babies thrive better on clean, whole, raw milk than on any diluted mixtures.

3301 Washington Blvd.

#### DISCUSSION.

Dr. J. C. Krafft made the following suggestion for the future of this branch in regard to the arrangements: That when the program is made up, it should specify not only the men on the program, but the hours also.

He believed in the early use of eggs in the infant's diet, not in the second or third year, but as early as six months, because the yolk of one egg contains as much iron, just as it is found in the human body, as eighteen ounces of milk will produce. When nothing stays, a little carrot juice will stay, because it contains a little iron and practically no proteins.

The best preparation that you can possibly give to a breast is to leave it alone.

As to the time when the milk comes, the milk on an average will come seventy-two hours after birth, and about six or seven hours sooner with each succeeding child, so that the twenty-fourth or twenty-sixth child finds milk present at once.

He does not agree with Dr. Van Derslice when he says that milk will come so long as a child will suck well. Has seen milk disappear almost overnight when a child was strong and sucked well. Would not let any child drink longer than eighteen or twenty minutes at the outside, and as soon as it stops nursing, would take it away.

Giving a green vegetable to the mother is a good point, for the reason that the vegetables contain iron, and, therefore, are always good for the mother and the child.

Regarding Dr. Whalen's paper, the physical defects in children have a marked effect upon their mental progress. Over seventy-two per cent of the children that were examined in the schools of New York City were found to be defective in one way or another. The Mental Hygiene Society, which is trying to open



branches throughout the state, would be glad to furnish you some very interesting information regarding the effect that physical defects have upon the mental ability of the child.

Dr. Armstrong said: We are at this time, in my city, agitating the question of cooperative plan; that is, of the employment of a full-time health officer, and doing away with our almost useless Board of Health system and the employment of a full-time medical inspector in the schools; perhaps to add some other duties.

He thought an endorsement of that kind by this Section, perhaps in their report to the House of Delegates, would help us materially.

The Chairman: Dr. Armstrong, the best way to do that would be for you to report your resolution and present it, and if accepted, why, it can be presented to the House of Delegates.

Dr. Harvey, of La Grange: For some years I have made physical examinations of a large number of men, boys and girls, who applied for work in one of our leading industrial establishments, and I have been struck by the large number of remediable defects, especially in the boys, which should have been corrected before they applied for work; that is, before they reached the age of sixteen, as this industry did not take children under the age of sixteen. We never reject those children on account of the defect, but we do not accept them until the defect is corrected. We tell the child what is the matter and send it home to its parents, and if the child cannot explain the nature of the defect to the parent, the parent is privileged to call me up and then I will refer them to their family physician. In that way we have had corrected a large number of hernia, have had removed a great number of tonsils and other small defects, and the individual has come back and gone to work and his work has then been uninterrupted, and in this connection I may say that I have been struck by the appalling and the atrocious condition of teeth, both of children and of adults.

Speaking of examination in schools, up to last year we had no physical examinations in the public schools, due to the activities of the Christian Scientists. A year ago, however, a fund was collected and the Board permitted a medical man, who was the Health Officer of the village, to make physical examination of the school children. This was paid out of this fund, contributed by the residents of the village. We have done a great deal of good during the past year. We have uncovered a large number of cases of measles and scarlet fever that heretofore were kept under cover, and we have in two instances, I believe, prevented an epidemic among the school children; and in those communities where they cannot have the full-time health officer, I would suggest that they might follow out this plan. Those who are interested get together, raise a fund and hire one of the physicians to make the tri-weekly medical inspection.

## CONVALESCENT HOSPITALS — THEIR ECONOMIC VALUE.\*

JOHN A. ROBISON, A. M., M. D.,  
CHICAGO.

President of the Illinois State Board of Health.

Our country is well supplied with institutions which care for patients incapacitated for a greater or lesser period of time by disease or injuries. We have State hospitals for the insane, feeble-minded and epileptics. We are well supplied with country and municipal hospitals, but there is a dearth in the United States of hospitals for the care of convalescent patients. In Great Britain there are over two hundred and fifty hospitals and homes for convalescents. In the United States I have been able to find a record of only about fifteen such institutions, and none of these receive male patients.

You all know there is an interval which averages about six weeks between the time a patient is discharged from a hospital before the ordinary occupations of life can be resumed. This interval is generally passed by the patient at the home, and an added burden is imposed upon the family before the patient again becomes productive. This means added expense, labor and worry to the families, and in case of indigency a great loss to the community.

For several years it has been my privilege to be the President of the Medical Staff of the Tribune Convalescent Hospital at Algonquin, Illinois, where in conjunction with an outing camp fifteen hundred women and children are given rest, recreation, good nursing and diet; and such as are ailing medical attention. The value of this work has so impressed me that today I am making a plea for the establishing of more such institutions, and a *special* plea for such institutions for men. If our charitably disposed wealthy people could be prevailed upon to divert some of their wealth to such institutions, it would place hundreds of families on a self-sustaining basis, and would result in a great economic gain to the commonwealth. It is difficult to estimate the gain, but when it costs about \$25,000 to kill each soldier in the present European war, what a blessing it would be to spend an infinitesimal amount on the conservation of human life.

Our general hospitals have already broadened

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

their work by establishing a social service, following their patients to their homes, but what a grand field lies before us in lessening human suffering by cutting short the period of convalescence.

Such institutions should be in the country, where there is change of scene, fresh air and sunshine, sanitary surroundings, an abundance of good milk and other food, and quiet. Such institutions would be of incalculable advantage in teaching people how to avoid disease and prepare for the future battles of life.

Convalescent hospitals could have in connection with them industrial plants, where light occupations would relieve the tedium of convalescence, and assist in support of the families.

I urge the medical profession to interest themselves in this class of hospitals and assist in their establishment.

#### DISCUSSION.

Dr. J. W. Pettit, of Ottawa, said that most of the hospitals and our best hospitals are in the city. It is only a very short time since the people had to go to the cities in order to get hospital privileges, but during the last very few years, especially in the last fifteen years, in this state, there is hardly a town of 5,000 inhabitants or more that hasn't its hospital.

Certain requisites of a good hospital are in its environment, and we are recognizing more and more that the place for a hospital is in the country, and not in the city. The hospital in the country can be run and give the same accommodations in every respect except possibly medical and surgical, for one-half what can be done in the city, or what is done in the city.

If the physicians in the city who recognize this need would send their convalescents to the small hospitals in the country, it would be a very good substitute, at least, though special hospitals could be built with profit.

The people in the country villages and towns object seriously to going to the city hospital, because of its environment, of the unusual and strange things that they have to put up with when they are there; and I believe that if they were not kept so long, if they were sent home sooner, that we could get our patients to go to the city hospitals much more easily.

Dr. Breakstone said there is no question but that there is as much need of a convalescent hospital in the prevention of disease as there is for any other measure. The histories of the people who have filled the tuberculosis hospitals everywhere show they were sent home too soon after an illness in a public hospital. They had to go to work, and in going to work when their health was below par they had contracted tuberculosis.

I think we ought to be very thankful to Dr. Drake for his paper, and I am especially glad of the statements that there would be a full-time paid man in every county looking to the prevention of disease.

Lots of money is spent to prevent business loss, and we pay for it. Very little money is spent to preserve the health of our people. I believe the public would pay for it if we would only educate them to it.

In my paper I have not attempted to give any remedies, but do believe that the Board of Health would be the proper people, not only to regulate colleges, but also to inspect and supervise hospitals, nursing schools, and everything else that pertains to medical education, because they would have no interest in labeling one a Class "A" and the other a Class "C" institution.

Dr. Martin Ritter, of Chicago: In answer to Dr. Petit's remarks about the country hospital, he took the position that a convalescent patient in a city hospital encounters many more difficulties on going out in the country to convalesce there. He believes that every city and every municipality is able to establish within its own limits institutions where a patient can convalesce; for those who can pay, paying institutions, and those who cannot pay must be provided for by the county and by the municipality.

It would be absolutely a criminal charge against physicians, as well as hospital authorities, to send people out subject to having tuberculosis following in the wake of an operation requiring two or three weeks, leaving the patient in a weak frame of mind, physically as well as mentally.

Dr. John Dill Robertson found the paper read by Dr. Drake—the comprehensive program, not contemplative, but actually accomplished—a surprise that so much had been done. Few, if any, of us knew of the large program and the great step forward Illinois has taken in her medical legislation, and without this legislation progress could not be made.

The Health Department of Chicago has fifteen inspectors in the field who are doing inspection work. They could also do other work, if it were properly arranged. They have automobiles for traveling from farm to farm and when they were doing the milk inspecting or inspecting the farm, they could likewise do other work in those counties, but they have no authority in those counties. They have no right to do anything except to show up a particular farmer's milk that does not come up to their regulation. They cannot stop any insanitary conditions that they may find. If this could be done by the state in every county in the state, see that every farm in the state could be inspected and whether the milk was proper or not, this would be great progress.

I think Dr. Drake is too modest. He should have taken a great deal of the credit for this program to himself. By saying that I do not want to take away anything from the president of the State Board of Health, who has his back turned, or of other members, because they have all worked together for this comprehensive program. I think the state of Illinois is to be congratulated and the State Board of Health



is to be congratulated. Mr. Chairman, if it is proper and not out of order, I would like to move a vote of thanks to the State Board of Health for the accomplishment of this wonderful work in legislation.

Motion seconded. Motion declared unanimously carried by the chairman.

M. W. Snell, chairman, in continuation of remarks started by Dr. Robertson, of Chicago, in which he said that Dr. Drake was entirely too modest about this, stated that he was in Springfield many times during the session of the legislature in which this was all accomplished, laboring with senators and representatives from his district, and he knows that Dr. Drake was on the job twenty-four hours almost out of every day.

### PUBLIC HEALTH LEGISLATION — RECENT AND CONTEMPLATED.\*

C. ST. CLAIR DRAKE, M. D.

Secretary Illinois State Board of Health.

SPRINGFIELD, ILL.

At this meeting of the Illinois State Medical Society, I am asked to present papers on two subjects. At this session I am expected to talk on "Public Health Legislation—Recent and Contemplated." At another session I am supposed to talk on "Medical Legislation—Recent and Contemplated." The fact that the State Medical Society should receive my remarks on these two subjects, rather than a single paper reviewing and forecasting legislation which is of interest to the State Board of Health, indicates that we are all of one mind in regard to the work of the Board for the future. It means that we all feel that the purely public health activities of the Board shall be definitely separated from those functions which have to do with medical examination and licensure and the enforcement of the medical practice act.

It is hardly necessary for me to review the various duties now imposed upon the State Board of Health by the law originally creating the Board; by the amendments to that act which have been passed since 1876 and by the special laws which have been enacted and whose enforcement the Board has been obligated to carry out. It is enough to say that, in addition to many duties of special character, the Illinois State Board of Health is a combined public health and medical licensing body.

In years gone by,—at the time the original act was passed—such a combination of duties was

practicable. The control of the public health amounted to but little more than meeting emergencies;—the quarantine of persons suffering from dangerously communicable diseases and the control of epidemics after they had developed. Preventive medicine,—as we now understand it,—was quite undeveloped forty years ago.

At that time, a state health department was not unlike a fire department. Except in case of "fire," the department was largely in a condition of watchful expectancy and might just as well be engaged in the examination and licensure of physicians and in the enforcement of the medical practice act as anything else. I am not saying this of the condition of public health administration in Illinois particularly; but of the conception of public health administration the world over.

As a matter of fact, public health work in Illinois at that time was relatively at a very high tide. Under the guidance of Dr. John H. Rauch and his able assistant, Dr. Frank W. Reilly, Illinois stood in the forefront in sanitary and public health affairs; but it must be recalled that in 1876 our knowledge of the cause and prevention of communicable diseases was very meagre indeed.

So it was perfectly consistent that the State Health Department should be charged with various and sundry duties more or less intimately connected with sanitation or with the medical profession.

Gradually, however, our knowledge of disease prevention increased. Gradually we came to understand that the time to handle an epidemic was before the epidemic occurred. Gradually we appreciated that activity in prevention of disease was infinitely more important than the suppression of disease. And today we realize that the work of a State Health Department must continue with unabated activity throughout 365 days in the year.

In the meantime the work of examination and registration was enormously increased until it was found, that, with appropriations always too low and with clerical services always inadequate, the duties in connection with the medical practice act occupied almost three-fourths of the time of the officers and employees of the State Board of Health.

Examinations had to be held. Examination papers had to be graded. Medical schools had to be inspected. Medical registration required ac-

\*Read before the Public Health Section, sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

curate service. The medical practice act had to be enforced. And these things had to be done at certain definite times. Constructive public health work,—the education of the people,—the prevention of preventable disease by a broad policy of publicity,—could receive only such attention and such time as could be spared from the medical and registration functions.

Such, frankly, has been the condition in the Illinois State Board of Health throughout a number of years. The Board, created originally as a public health organization, has been compelled to expend its energies upon functions which have only a remote connection with the public health.

There was some talk a few years ago of remedying this condition by the creation of an entirely independent board of medical licensure and, for a time, it seemed likely that this would be done. The rapidly growing tendency of recent years, however, has been to centralize and concentrate administrative power and the more progressive states have set the example in abolishing many boards and bureaus and combining their functions under single heads. In Illinois, the boards in charge of the various State charitable institutions,—made up of scores of persons,—have been done away with and the State charities have been placed under the responsible charge of the State Board of Administration. With this change in policy, looking toward greater administrative efficiency, the creation of a state board of medical examiners is quite out of step with the times and would doubtless be regarded as wholly impracticable. This, however, does not alter the fact that the two major functions now performed by the State Board of Health should be separated. The manner of separation which seems most logical at this time is the continuance of a State Board of Health, but with a distinct division, under that Board, into departments of public health and of medical examination and licensure. This separation will be dwelt upon more in detail in my remarks upon prospective medical legislation. I suggest it at this time merely in connection with the general proposition that, while not imperative in times past, such a separation is a matter of grave necessity at the present time.

And so, in the remarks I am to make to this section, I am considering the State Board of Health purely as a public health organization. As an examining and licensing body, I shall discuss it elsewhere.

As I have stated, Illinois under Dr. Rauch, forty years ago, stood in advance of most of the States of the Union in public health administration. During succeeding years, it appears that Illinois lost her position of supremacy and other progressive states forged their way ahead of us. Critics have said that Illinois retrograded. This is not true. Illinois stood still in a day of very rapid progress in the science of preventive medicine. For some reason, it seemed impossible to secure the enactment of those laws which are absolutely basic and fundamental, such, for example, as a law for the registration of births and deaths.

If these remarks on Recent Public Health Legislation had been written five years ago or even two years ago, they might have been brief indeed. The Forty-ninth General Assembly, however, did much to restore to Illinois her old-time prestige in sanitary and public health affairs. Some one has said, and with a great deal of truth, that the laws passed by the last legislature set the State a quarter of a century forward.

No single session has ever left behind it such a record as this:

1. A birth and death law which will place Illinois in the registration area as defined by the United States Bureau of the Census, and which will form the foundation for constructive public health work;
2. A law for the prevention of blindness from infections arising at birth;
3. A law providing for the creation of county tuberculosis sanatoria and for the establishment of tuberculosis dispensaries and the employment of tuberculosis visiting nurses;
4. A law prohibiting the dumping of tuberculosis cattle into the State;
5. A law authorizing the levying of a special tax by municipalities for the purpose of garbage collection and disposal;
6. A law providing for the establishment of standards and for the supervision of school sanitation;
7. Increases in appropriations permitting: (a) The extension of the sanitary service; (b) The establishment of a bureau of sanitary engineering; (c) The establishment of a bureau of communicable diseases headed by a State epidemiologist; (d) The employment for the first time in Illinois of full-time medical health officers; (e) The extension of the diagnostic laboratory service by the



establishment of branch laboratories in the north, south and east sections of the State, and, (f) The extension of service in the free distribution of vaccines, sera and other prophylactic agents.

In fact, the number and importance of the laws enacted were such that the changes were, in some ways, almost revolutionary. A report on State Public Health Work, prepared for the American Medical Association by Dr. Charles V. Chapin, the section devoted to Illinois, devoted largely to pointing out basic defects in Illinois health administration and written in March, 1915, required additional notes, before publication in the autumn, stating that those criticisms based upon inadequate laws had been very largely nullified by the action of the last General Assembly.

For some reason, the members of the last legislature were unusually friendly to the medical profession and manifested the greatest readiness to support all sound measures for public health development. To this fact, in large extent, must be attributed the success of the year. Credit must also be given to the devotion and the activity of the chairman of the Legislative Committee of the State Medical Society, who worked untiringly throughout the session and who won the confidence and friendship of the majority of the members of the House and Senate.

In but one instance did the Forty-ninth General Assembly pass a law which could bring forth the slightest criticism from physicians and, in that case, there is much to be said on the other side. From the very beginning, the so-called "Optometry Bill" bore the earmarks of a successful career, and its passage occasioned little surprise to those who were in close touch with affairs in Springfield. The optometrists conducted a forceful and intelligent campaign and were well represented throughout the entire session, and many members who could always be counted upon to support sound medical legislation voted for the optometry bill.

These men pointed out at the time that the courts have held that the practice of optometry is in no sense the practice of medicine and that, on that account, such practice has been in no way regulated by law, and they point out now, since the law has been in effect, that more than 500 incompetent spectacle venders have already been put out of business.

More important, however, was the fact that the members who were friendly to the medical pro-

fession had little reason to assume that opposition to the bill came from the profession as a whole. There was relatively little opposition from physicians. In fact, there is abundant proof that twice as many medical men took occasion to write or telegraph in support of the bill as there were those who took the trouble to oppose it.

And so the Forty-ninth General Assembly left behind it a record of maximum good legislation and a minimum of bad legislation. Let us consider for a few moments what these recent health laws are in actual application and what bearing they have upon the development of public health administration in Illinois in the future. It will be seen that the laws already passed fit splendidly into a constructive program for the necessary reorganization in times to come.

In a plan of health organization submitted to the State Economy and Efficiency Commission in 1914 by the Board, the State Board of Health was to divide its functions between two major departments; one a Department of Public Health and the other a Department of Medical Registration. An executive officer, serving as secretary of the Board, would have general supervision over the two departments; but the departments would be quite independent of each other and each would have its own immediate head, responsible directly to the Board.

While this separation of the major divisions of the Board is absolutely essential, there are very definite administrative advantages in keeping them united under a single Board and with more or less closely related offices. In this way a duplication of expensive machinery is avoided; statistical facilities may be utilized jointly and other means of activity may be employed by the several departments together with greater economy and with greater efficiency.

In a more recently conceived plan of reorganization, the functions of the State Board of Health are divided among three major departments: (1) A department of public health, (2) A department of food inspection, and (3) A department of medical registration. Each of these departments will be presided over by a commissioner or director, each independent of the other and each responsible only to the State Board of Health and the Governor.

These departments in turn are subdivided into bureaus and each of these bureaus will be conducted under the immediate supervision of com-

petent chiefs, experts in their particular fields. A special bureau, known as the General Service Bureau, will be maintained under the direction of the secretary of the Board, and will embrace two divisions,—one a Purchasing and Auditing Division, and the other a Division of Publicity and Education,—the services of which will be available to all three departments. This arrangement is in the interest of economy and efficiency.

The new plan contemplates a State Board of Health organized much as at present with only slightly different powers, but it implies radical changes in the powers and duties of the secretary of the Board.

At the present time, the secretary is the executive officer of the Board, and upon him rests full responsibility for the discharge of the duties imposed on the Board, when the Board is not in session. The new plan removes executive authority from the secretary and places it on the Commissioners of the three departments according to the functions of the department over which each presides. The duties of the secretary become purely clerical in character.

Before the members of this section it is appropriate that discussion be more confined to the proposed organization of the public health service.

The Health Department, you will note, is divided into five major bureaus, and the bureaus in turn are divided into divisions. The functions of each of these bureaus and divisions are fairly well indicated by the titles they bear.

The present organization of the Board embraces in a more or less complete way, chiefly less, the major portion of the service which will be rendered by the proposed new organization, but the present need is a more definite organization and an expansion in every field under the immediate supervision of expert directors.

The last General Assembly gave us a start in the right direction; it is hoped the next legislative session will witness the completion of the work.

A first step in the direction of child hygiene was made by the last General Assembly in the enactment of a law providing for sanitary supervision of schoolhouses and the establishment of sanitary standards to be set forth by the State Board of Health, the State Architect, the State Fire Marshal co-operating with the State Superintendent of Public Instruction. This law, however, is only a step. It deals with lighting, venti-

lation and certain other general points in connection with the physical equipment of the school; but does not go far in the actual control of public health.

In the proposed plan for reorganization of the State Board of Health, the child receives serious consideration and there are contemplated divisions of School Inspection and of Infant Welfare.

By increased appropriations, the Board has been enabled to create during the past year a line of activity which the State has sorely needed,—a Bureau of Sanitary Engineering,—and this Bureau has already manifested its usefulness in meeting a number of serious sanitary problems in the State. While this Bureau will render excellent service from this time on, it is very desirable that the State laws be so amended that the State Board of Health will have complete supervision over all new and existing installations of public water supplies and sewerage; the operation of water and sewage treatment works; the sanitation of schoolhouses; the sanitation of common carriers, and it is also very important that the appropriations for the Bureau be such that its working force may be augmented and its activities extended.

With the exception of the Birth and Death Act,—which is absolutely basic and fundamental,—perhaps no single feature in recent legislation is more important than provision for the employment of full-time, district health officers. The appropriation for this purpose is small; but it has permitted the division of the State into five sanitary districts and the employment of an epidemiologist and of four medical health officers.

The epidemiologist is serving as chief medical inspector and his field extends generally over the State. The district health officers must give their entire time to public health work; they are physicians and they have secured their appointments only after rigid tests of their sanitary knowledge. The District Health Officer is charged with the health conditions of his district and must not only meet such emergencies as may arise, but must constantly carry on a campaign of popular education. One of his most important duties is to keep in close contact with the municipal health officers in his district; to hold conferences and schools of instruction for health officers and to bring these local officials into close contact with the State Board of Health.

The quarterly health officers' schools will be



supplemented each year by a state-wide school of health instruction in which the health officers of the municipalities in all of the districts of the State will be brought together.

The establishment of this district health officer service has paved the way for broad extension of similar activity. It is quite likely that, during the next session of the General Assembly, several officers may be added and the State redistricted into smaller areas making more intensive work possible.

The ultimate aim of this movement, however, is the establishment of county health officer service,—a full-time medical health officer in every county in Illinois,—and it may be said definitely that public health work in the State will never reach a high enough efficiency until such county officers are employed.

To make this county service efficient, the officer should be selected purely upon his merit. If not by civil service, there should be a provision that the appointment and removal of the county officer shall be subject to the approval of the State Board of Health.

There is one other essential feature of public health supervision which, under present conditions, must be very unsatisfactory, and there is one important department which must be developed in the State Board of Health before that organization can give to the public the full measure of service. This department is that of Food Inspection.

At the present time, as you are doubtless aware, food inspection is carried out in Illinois largely by the State Food Commissioner, while the State Board of Health engages only in a rather limited supervision of milk production.

Food inspection is important for two very different reasons. One is that the food of the people may be safe for general consumption. The other is that the food of the people shall be unadulterated and shall be what it is purported to be by the dealer and the manufacturer. One is an essential public health matter. The other is essentially commercial and has largely to do with mere commercial honesty.

Illinois is one of the great food producing States in the Nation and yet, for some reason, the commercial side of food inspection is given the accent, while the public health side is singularly neglected.

While the State Board of Health, within the

past few years, has done considerable work in the inspection of dairies and in the supervision of milk production, the limited appropriations have made this important branch of activity wholly inadequate.

As a matter of fact, the State should control all milk production in territory outside the jurisdiction of the individual municipalities, which means that State supervision should cover practically all milk production in the State. Relatively few dairies are located within the corporate limits of cities and, consequently, the cities cannot effectively supervise them.

It is true that the municipality may prevent the sale of milk from a filthy dairy within its corporate limits; but, if sale is prohibited by one city, there is nothing to prevent the owner of the filthy dairy disposing of his polluted product in other nearby cities. The increasing facilities of transportation make this a far simpler matter for the dairyman who prefers to seek new markets rather than to adopt sanitary dairy methods.

A situation of this kind can only be remedied by state legislation and state supervision, and my experience is that those communities which now are maintaining a dairy inspection service at great expense and with varying degrees of effectiveness will be glad indeed to have the state relieve them of a difficult task. Certainly the state owes it to its smaller communities,—those which by reason of limited funds are unable to maintain a protective service,—to see that they are properly safeguarded and that they shall not suffer unduly by reason of the better fortune of a neighboring city.

In conclusion, I wish to say that the Board not only appreciates this opportunity to direct your attention to recent legislation which must be of interest to all of you, but more especially is it pleased to be afforded an opportunity to lay before you the pressing needs of the health service of the State and to outline plans for meeting these needs.

It is deemed good judgment to lay these matters before you now and invite your full and free discussion, rather than to wait until such time as they may become subjects for consideration by the legislature. It is better that we should thrash out our differences now and among ourselves, than to wait until the General Assembly convenes and do so before the legislative body of the State. Success in medical and sanitary legislation de-

pends very largely upon unanimity of opinion and action on the part of those seeking such legislation.

## THE HEALTH DEPARTMENT UNDER COMMISSION FORM OF GOVERNMENT.\*

F. C. VANDERVORT, M. D.,  
BLOOMINGTON, ILL.

For the benefit of those not familiar with this form of government, I will briefly explain it. Under a recent law enacted in Illinois, any city of certain population may adopt the commission form by vote of the people. In the spring of 1915, Bloomington voted the adoption of said form. The Commission consists of four Commissioners and a Mayor, elected under a plan that entirely eliminates party politics. For instance, any citizen, white or black, male or female may announce himself as a candidate for either office and submit his chance to a vote of the people at a primary. In Bloomington there were nearly fifty candidates announced themselves, four or five for Mayor and some 57 varieties for Commissioner. When the votes were counted, the two having highest vote for Mayor were declared to be the candidates for Mayor, the eight highest on list for Commissioner nomination, were declared to be candidates for Commissioner. At the election, the one receiving the highest vote for mayor was elected to that office. The four highest for Commissioner were elected Commissioners. The first Monday in May, the new Mayor and Commissioners were installed, as the City Council. They agreed among themselves as to manner of division of labor, as the officers put in their whole time, a very different plan from the old aldermanic plan.

One is Commissioner of Finance.

One is Commissioner of Street and Public Improvements.

One is Commissioner of Public Property. and one Commissioner of "Public Health and Safety." It is in regard to the work of the latter Commissioner that I shall confine myself. We had been having a Medical Health Officer on a small salary with a sanitary policeman under the old regime. The ordinance was revised conferring all the powers of the Medical Health

Officer upon the Board of Health, which is composed of the Commissioner of Health, President; the Sanitary Policeman, Secretary, and three physicians, who constitute a majority and have absolute authority on all matters pertaining to health and hygiene. So far, the Medical Staff of the Board have acted as a unit and the work has run very smoothly. At our first regular meeting, we adopted the new rules adopted by the State Board of Health in February, 1915, and established quarantine according to these new rules of the State Board. We follow the rules and instructions of the State Board, to the letter, and the addition of all contagious and infectious disease to the quarantine list has greatly increased the work of the local boards. We first issued an official circular to the physicians of the city, calling their attention to the rules, a copy of which follows immediately:

Bloomington, Ill., May 27, 1916.

The Local Board of Health wish to call your attention to the new ruling of the State Board of Health of February 16, 1915, in regard to communicable diseases.

### CLASS 1.

Must be quarantined and placarded:

Smallpox	Cerebrospinal fever:
Scarlet fever	Meningitis (epidemic)
Scarlatina	Asiatic cholera
Diphtheria	Bubonic plague
Membranous croup	Leprosy
Chickenpox	Typhus fever
Measles	Yellow fever
Whooping cough	Rocky Mountain spotted fever
Poliomyelitis (acute inf.)	

### CLASS 2.

Typhoid fever	Ophthalmia neonatorum
Paratyphoid fever	Trachoma
Dysentery—amebic	Pellagra
Dysentery—bacillary	Puerperal fever
German measles	Rabies (hydrophobia)
Mumps	Tetanus
Septic sore throat	Glanders
Malaria	Anthrax
"Continued fever"	Trichinosis
Hookworm disease	Actinomycosis
Tuberculosis	

We are compelled by law to enforce these rules, or suffer a penalty.

Your attention is respectfully called to the accompanying circular issued by the state, and your hearty cooperation for the enforcement of the same is desired and expected. Please send all reports to Commissioner A. G. Erickson, City Hall.

F. H. GODFREY, M. D.,

F. C. VANDERVORT, M. D.,

H. H. GRIFFIN, M. D.,

Local Board of Health.

On the whole the co-operation of the medical profession has been hearty. The new rules for quarantine of diseases of the milder form or of second class are harder to enforce than the graver contagious diseases. We have more trouble with whooping cough than any other disease. We find

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



that many people whose children have the latter disease never call a physician and hence the cases are never reported to the Health Department. We have met with most hearty co-operation from the school authorities and all children of either class are excluded from the school by the teachers. Before children can return to school, we require them to secure a certificate of health from one of the Medical Board. The following certificate is printed in book form and all the doctor has to do is to examine the pupil and fill in the name and date and sign his name:

Bloomington, Ill., ....., 19....

This certifies that ....., pupil in a city school, is now free from all contagious or infectious disease and is entitled to re-enter school.

BOARD OF HEALTH,  
Per .....

A. G. Erickson,  
Commissioner of Health.

F. H. Godfrey, M. D.

F. C. Vandervort, M. D.

H. H. Griffin, M. D.

The following notice printed and framed is hung in each school and copy thereof handed to member of family having any contagious disease:

*Notice of Parents of Children Attending This School.*

After convalescence from any contagion, parents must secure a certificate of health from the local board of health before the pupils present themselves for re-entering school.

No charge for certificate.

A. G. Erickson, Commissioner of Health.

F. H. Godfrey, M. D.

F. C. Vandervort, M. D.

H. H. Griffin, M. D.

W. T. Williams,  
Sanitary Officer.

\* \* \*

I understand some objection is offered to the above rule by the physicians, but none by the parents. We find it absolutely necessary to protect the schools to enforce this rule. At the very beginning of our work, as a Health Board, we found children attending school, suffering from contagious diseases, having in their possession certificates of health from the attending physician. The full time Health Officer, is of course, the ideal executive, but the question of revenue is an important factor. Most cities are now taxed to the legal limit and not enough money is furnished to properly equip the Health Department. Experts say it should require a 2 per cent tax to furnish a sufficient amount of revenue. Bloomington has not, at present, the wherewith to hire a full time medical health officer and it is in the same condition as most cities of its size. Our plan would be ideal if the Commissioner of Health and Safety were a medical man. This is a possible accomplishment under the Commission Form of Government. Suppose a doctor submits his name to the voters as Commissioner. If he is elected there is no doubt but this particular department would fall to his lot.

Under these conditions, we would then have a full time medical commissioner. Our claim is that a layman, as executive, may be just as efficient, if he is properly advised by a medical board of health. The recent legislature amended the Medical Practice act so that Illinois will now again come to the front in the matter of its health regulations. The State has been divided into five districts, each to have a full time District Health Officer whose duties are to supervise health matters in his district. His duties are to be educational, advisory and executive. It is not necessary for every city and town to have a laboratory of its own, while the State has an efficient one where all examinations can be made and a report received by telephone in a very short time. In the large cities, of course, it is necessary to have laboratories. As a Board of Health, we really are a branch of the State service, which has absolute control of all health matters in all localities in the State. The aim of any Health Department is to secure the co-operation of the people in the enforcement of the laws. The two hardest things to do are to get the people to keep their premises clean and to assist in maintaining a proper quarantine in cases of contagious diseases. In many cases the most difficulty is had with the people of the better class, not the slum class. Here is where the plan of educating the people comes in and this can be accomplished by constant dinging into the ears of the public through the press, pulpit, school, civic leagues, women clubs, etc. The campaign against the fly is now on. We have received three thousand copies of the state fly circular from the State Board of Health and these circulars were put into every home by school children under the supervision of the superintendent of schools, the teachers each giving a talk to their schools on the subject so as impress the lessons taught by the circular upon their minds, and to impress upon them the importance of the instructions conveyed by the circular. The ministers of the different churches were also requested to call the attention of their congregations to the subject of cleanliness and fly swatting.

I will close with a letter from the Secretary of the State Board of Health, followed by instructions to District Health Officers.

Springfield, April 3, 1916.

DEAR DOCTOR VANDERVORT:

The reorganization of the State Health service is being accomplished under the general powers granted

the State Board of Health in the act creating the board.

A part of this plan of reorganization calls for a Bureau of Communicable Diseases, the directing head of which shall be an epidemiologist and the field force immediately under the charge of this director shall at first consist of four District Health Officers.

The duties of these District Health Officers are set forth in the pages of the accompanying copy of our *Illinois Health News*. For the purpose of administration the State has been divided into five sanitary districts, four in charge of district health officers, the fifth to be under the care of the Epidemiologist for the present. These districts have been mapped out with a view to equal distribution of population and accessibility from a central point where the District Health Officer must reside.

As a further step in the direction of developing an efficient state health service, we shall ask the next General Assembly to enact legislation creating full time County Medical Officers for each county having more than 50,000 population, and for groups of adjoining counties where the aggregate or combined population will not be greater than 50,000.

We believe we can show the legislators that this plan of organization will not only provide their constituents with a degree of protection which they have not hitherto enjoyed but that it will be a saving of many thousands of dollars which now are expended with little or no results. To the municipalities now maintaining a fairly efficient health service it will result in a material lessening of the burdens which now are inflicted upon them through lack of proper precautions in the surrounding rural district.

\* \* \*

Copy of letter sent to District Health Officers:

DEAR DOCTOR: With the reorganization of the medical inspection service it shall be the aim of the Board to keep in closer touch than heretofore with the local health authorities and with communicable disease conditions as they may exist in various parts of the state.

The duties, in general, of District Health Officers will be to enforce the rules, regulations and orders of the State Board of Health, to decide all questions of disputed diagnosis, to instruct and assist local health authorities and registrars of births and deaths in the performance of their duties, to conduct active educational health campaigns and to hold lectures with health officers and with organizations interested in public health work. In times of floods or other disasters they will organize and direct emergency medical relief.

Whenever, in the opinion of a District Health Officer the situation requires that local health authorities be temporarily superseded, he shall so report to the secretary without delay.

All assignments for inspection and investigation will be made by the secretary and all requests for the services of District Health Officers should be referred to him. If, however, in the opinion of the District Health Officer, an emergency should exist, the call should be

responded to at once and this office notified. Authority to act will then be forwarded to him. The assignment blanks which accompany each assignment should be filled out by the District Health Officers and returned with their expense account. A separate report in writing on each investigation, inspection or assignment must be promptly made to the secretary. A weekly report on health conditions in his district should also be made by each District Health Officer. Such report should contain such recommendations as he may think will improve health conditions in his district.

District Health Officers will keep this office advised at all times of their whereabouts in order that they may be reached as quickly as possible when occasion requires. When filling assignments, they will not confine themselves to diagnosis alone, but will thoroughly acquaint themselves with health conditions, not only in the communities visited, but in the surrounding country.

District Health Officers, when visiting premises on which cases of communicable diseases exist, will take every precaution to prevent the spread of the disease from their visits. This is a matter to which sufficient attention is not always given and the District Health Officers should set an example to those who are guilty of carelessness and disregard of necessary precautions. Attendants and other members of the infected families and local health authorities should be instructed in such precautionary measures and should be urged and directed to observe them.

District Health Officers, whenever visiting any community, should get in touch with the local health authorities and the local physicians, ascertaining whether or not any contagious diseases exist in the community or in the surrounding country. The number of cases of the various communicable diseases should be ascertained and indicated in the inspector's report. The location of the cases should also be indicated. Whenever examinations are made of cases in the country the township in which the patients reside should be indicated in order that this board may get into communication with the local health authorities, if necessary.

District Health Officers should attempt to locate sources of infection and see that proper steps are taken to control the same. They should also see that all exposures are located and handled in accordance with the rules of the Board.

District Health Officers should pay particular attention to instructing local health authorities in their duties, especially with reference to reports of cases to this office and to quarantine. Whenever laxness in the enforcement of the rules of this Board is found, the local health authorities are to be advised that the rules of this Board must be enforced and the local health authorities are not permitted to relax the same.

In all instances the railroad stations and surroundings at the places visited should be inspected, provided, of course, that no inspection has been made of such place within a short time previous. A separate



report on the inspection of each railroad station should be made.

In each locality visited District Health Officers should also take time to interview the local registrar of the district and ascertain facts relating to the enforcement of the new birth and death registration law. For this purpose District Health Officers must thoroughly familiarize themselves with the provisions of the law and shall be prepared to meet inquiries and to advance proper arguments sustaining the new procedure. This is an important new duty of the District Health Officers and it is expected that it shall be discharged in a thoroughly satisfactory and efficient manner.

Reports of such interviews shall be made separate from medical or sanitary reports, and any complaints, requests for information and suggestions for rectification of existing shortcomings should be incorporated therein. This new birth and death registration law is not an experiment, it is not different from exactly similar laws which for many years have been in successful operation in other states; and what can be done in other states surely can be accomplished in Illinois.

District Health Officers must be prepared to advise local health authorities as to proper procedure in prosecutions for violation of the rules for the control of communicable diseases, and should insist upon prosecutions being instituted for all violations in which the circumstances are not so extenuating as to excuse such violations. Whenever violations are found, a full report thereon should be made to this office.

Under the statutes (Chapter 126a, revised statutes) it is made the duty of all officers and employes of the state and of every city, village, county and township to enforce the rules of this Board. The same statute provides a penalty for the violations of the rules of this Board and of a fine not to exceed \$200 or imprisonment in the county jail not to exceed six months or both. The penalty being either a fine or imprisonment, or both, it necessitates a preliminary hearing before a magistrate, binding over to the grand jury, indictment and trial in a court of record. This being a process which involves considerable delay, prosecution in cities and villages should be brought under the municipal health ordinance, if the provisions of the same are strong enough to hold the offender; when they are not, the violation, when reported to this office, will be called to the attention of the state's attorney, with the request that he prosecute the offender.

Very truly yours,  
C. ST. CLAIR DRAKE, M. D., Secretary.

\* \* \*

Thus, you will see that the duties of the local Board of Health are made clear, in that they correspond with the state laws and the above instructions show how closely is the state supervising the health departments in the local units.

## THE CLASSIFICATION OF MEDICAL INSTITUTIONS AND ITS EFFECTS ON MEDICAL EDUCATION AND THE MEDICAL PROFESSION OF AMERICA.\*

BENJ. H. BREAKSTONE, B. S., M. D.

Professor of Surgery, Bennett Medical College; Medical Department, Loyola University; Attending Surgeon, Jefferson Park Hospital; Attending Surgeon, Douglas Hospital; Consulting Surgeon, Municipal Tuberculosis Sanitarium.

When our forefathers devised the constitution of the United States, the prime factor was equality.

There is an attempt, however, at the present day to imitate some of the European ideas and to divide everything into class, and this some think is for progress.

If we are to have class, it will close the avenues for new institutions to spring up, and it is new institutions that make for progress. For instance: Years ago in Chicago there was but one medical school, Rush Medical College, and the curriculum consisted of two courses of lectures, of six months each, both of which courses were identical. At the end of this time they graduated and became doctors and practiced medicine throughout the great West. The faculty was composed of sincere and earnest men and many of these graduates have become great physicians and surgeons.

If such a school existed today it would promptly be put out of business. However, if the same school had been allowed to exist as the only school in Chicago, and if it were difficult on account of financial or other reasons to get to any other school, the faculty would have been self-satisfied and would not have progressed to the great institution it is today.

As schools multiplied in Illinois it became apparent that some of the older schools which have already established a reputation were not watched and every now and then students would slip by and graduate without taking the required courses in full, or without reaching the examination marks required. So common was this practice that it became necessary for Illinois to pass a law that all graduates of medical colleges must take an examination by a State Board of Health before they could practice medicine. This law went into effect July 1, 1899, and it then became a check on medical schools and prevented them

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

from graduating their friends and favorites without teaching them sufficient at least to pass a State Board Examination. This board soon recognized the fact that in order to be impartial, it must be composed of doctors who are in no way connected with any teaching institution, and, furthermore, inasmuch as the majority of the members of the board are picked from down state, we are always assured of a fair minded, impartial board. It seems that some of the older and so-called better schools were not satisfied with the board because the results showed that other colleges had the same chance of making good as they.

To prevent this competition, a scheme was recently devised by which medical colleges must be classified so as to induce some weak-kneed state boards not to admit graduates of so-called lesser colleges to the examination. Here I wish to emphasize the fact that it was the so-called lesser colleges that made the other colleges better.

The committee on classification of the American Medical Association is composed almost wholly of men who are directly connected with medical colleges. It is superfluous to state that they represent only class "A" schools, whether these schools are entitled to that distinction or not.

The present classification of medical schools is wholly unfair for the following reasons:

First: That all members are connected with institutions that are to be classified.

Second: That they have a separate standard for Northern and Southern Colleges.

The writer knows well that vast improvements in medical education should be made in this country, but he is of the opinion it will never be done through classification by the methods employed by the present committee.

In order to improve medical education, we must first be able to unite the entire medical profession so that when we appeal to the public there will be no dissenting voice. This can hardly be accomplished through classification by interested men.

Every member of the A. M. A. knows that medical education should be improved, but it should be done on co-operative lines rather than on antagonistic lines. At the present time the effects of classification have been:

First: To create antagonism and discord in the medical profession by class distinction.

Second: That it educates men on theoretic lines rather than practical.

Third: That it drives many worthy but poor students to class "B" and "C" schools.

Fourth: Many able teachers and practitioners are discouraged by constant discrimination.

Fifth: That it increases the number of "other practitioners" who are taking the board everywhere (especially is this true in Illinois).

Let me dilate some: The colleges now are striving not to educate men to become doctors, but to make a showing in the various examining boards and hospital examinations. It is a well known fact that most of the class "A" colleges maintain quiz courses in order that they may get the highest places in the various hospital interne examinations. The men who take these quiz courses are looked upon as the most competent in their respective schools and are excused from most of the clinical and practical work. They are taught to answer questions on paper rather than recognize a lesion when they see it, or to make a diagnosis from clinical symptoms. *A college that maintains a quiz course for the mere purpose of passing examinations is equivalent to a college that gives a course by mail or maintains a correspondence school, and these graduates are turned loose each year to get their practical knowledge by experimenting on patients put under their care in the various public hospitals of this country.* In the present cry of humanitarianism, this thing should be abolished. I speak largely of Illinois, because I am more acquainted with the situation here. For the past two years or more there has been a movement on foot for the four Illinois universities which maintain medical departments to get together and improve all courses to one standard which shall be agreed upon by all and allowing the student to pick out his course in any one of the four institutions, as is done in Germany and other countries. No one can deny the fairness of this, still the representative of the foremost medical school in Illinois refused to go into this deal because one certain man in another college was on that committee. Can such a man be sincere in his efforts for the improvement of medical education? Still he is a power in the classification committee of the A. M. A. The havoc wrought by this committee is so intricate and so complex that I



doubt if ten years hence we will be able to undo the harm that has been done thus far by this committee. In all other bodies or professions, improvements and advances are made not to harm the existing members of that certain profession.

To illustrate: I have already stated that a separate standard exists for the South and for the North. The Texas Board of Health has refused to reciprocate with Illinois on account of Illinois having class "C" schools. I am informed on very good authority that none of the schools of Texas can compare with even the "C" schools of Illinois, and yet Illinois graduates who have passed the State Board of Illinois cannot reciprocate with Texas on account of the one or two "C" schools in Illinois, which are as good at least as "B" schools of Texas. Examples of this kind can be multiplied. Along with the classification of the colleges, with no improvement in medical education whatever, in an effort to still further control the student body, a plan for a proposed voluntary Universal Board of Examiners was proposed. This again will be in the hands of the men who are interested in medical schools, and therefore will *undo what the state boards have been trying to do for these many years in giving fair and impartial examination* regardless of where the applicant has received his medical education.

The lesser schools have certainly not been improved for the reason that they do not need to teach anything any more as long as their applicants will make a good showing before the various state boards, and thus several private schools have sprung up that give quiz courses.

It is not necessary for any one to have any education whatever in order to pass a state board, or hospital examination after he takes one of these quiz courses, so that the only thing the committee has accomplished thus far is that the *practical work does not need to count as much as the written examination.*

I fear that if I am to give more details, this paper will become too long, but if we are to improve medical education in this country, we must do the following:

First: We must agree on what should be the preliminary requisite for the entrance to a medical school.

Second: All teachers should be full time paid men. The reason for this is apparent in

spite of the fact of the many times that the word "selfish" appears in the Annual Report of the Chairman of Education Committee A. M. A.

No one teaches in any school without direct pay, unless he expects to make money out of the future graduates. Indeed, no one can afford to give it the time it requires. This fact is recognized in other branches of teaching, and also in medical teaching in Europe. There is no reason why all the medical schools of Illinois could not get together in some manner if the committee for medical education is really sincere. The chairman of the committee in his 12th Annual Report said such a thing would be desirable, and no one will disagree with him, but there has not been a sincere effort to accomplish this. While there has been a reduction in the number of graduates in medicine in the last several years, there has been an *alarming increase in the number of osteopaths, chiropractors, and other practitioners* who take the board at every examination.

#### HOSPITALS.

The same thing is being done by the committee for the classification of hospitals. I have tried to find out from the A. M. A. what a recognized hospital means, but without a satisfactory answer, yet a pamphlet is published which gives a list of recognized hospitals, and in Chicago, to my knowledge, several large and well known hospitals are not on this list, whereas a number of questionable hospitals appear there. What explanation can be made of that I cannot say, but the effect on hospitals is an even more vicious one than the effect on the colleges, for there are hospitals which are unable to obtain internes on this account, and I would not be surprised if there will be a number of legal actions against the A. M. A. for that reason. Hospitals should be encouraged rather than discouraged, and yet the same coterie of men who are classifying the colleges, state boards, hospitals, etc., also fostered a nurses bill that has created a famine of nurses so that the pay of nurses in and out of the hospitals has so increased that many of the smaller hospitals will have to retire or run a non-recognized nurses training school. They have also discredited surgery by the establishment of a so-called "college" of surgeons. The so-called larger hospitals controlled by this same coterie, evade the law by

having internes who are not licensed, and anesthetists, who have never studied medicine.

Why can we not get together and talk these things over at our meetings and not have a group of men go off in a corner and believe that they are the directors chosen by an Almighty God to direct medical affairs without regard to any one else in the medical profession except their own personal friends who are *deemed by them competent*? And why shall they air their partisan views in the lay press to the detriment of the entire profession.

The writer wishes nothing else from this paper except an awakening to the necessity of co-operation in the accomplishment of good for the entire medical profession, for medical education, and for the community at large. In the preparation of this paper the writer has consulted Flexner's Report, The Educational Number, Public Health Number, and State Board Number of the Journal A. M. A., 1916, and Editorial, May, 1916, ILLINOIS MEDICAL JOURNAL, to which articles he respectfully refers any one interested.

#### DISCUSSION

Dr. Mann, of Elgin, complimented the speaker on "one of the finest papers he had listened to in many a day." In answer to the question, Why can we not get together on this matter? He attributed the trouble to the division of the medical profession into cliques of three, four or five, each one antagonizing the interests of the profession at large by jealousy, by antagonizing each other. Until we do get together, the men who recognize the fact of our disruption are going to take advantage of it and are going to tell us what we have got to do.

Dr. Robertson stated that for nearly twenty years he had been interested in medical education as part owner in a medical school, but that the one he was interested in now belongs to Loyola University, so that he could talk without any selfish interests whatever. He praised the classification of the American Medical Association, because it made us all "get up and scratch." It made us all work for better institutions. It cost him around \$100,000 at one time, invested to make a better medical school. For six or seven years he opposed the Illinois State University taking over the Physicians and Surgeons College in every legislature. He wanted to take them all together instead of taking one institution. But now that the state has its school, we, in the state of Illinois, ought to see that the State Medical is made equal to any other medical school in the United States; in other words, we ought to make a Johns Hopkins out of it and get behind and push it along just as fast and as far as we can. We will have a great practical school, and we think the plans should be after the

English plan. There, three years ago, the first and second years were spent in school and the rest of the time in the hospital. They spend three years in hospital and two in school. That made practical men out of them.

We are raising our standards of medical education and at the same time we are permitting other practitioners, chiropractors and others, to come in under the same rights and now they are coming to the state board and want the right to sign death certificates and have them accepted. If you don't get into politics and have something to say about what legislation shall be passed, you will have a few six or seven-year colleges and a large number will be the other practitioners.

Dr. Hemenway has attended the Medical Conference on Medical Education for a number of years, ever since he was sent as a delegate by the American Academy, and has seen the defects. The standard of education has been raised to such a degree that when a man has gone through a Class A school and taken a real good course, he does not feel that he can afford to sit down anywhere except in a live city, where he can get immediate returns on his investment. Secondly, the boy who wants to get into the practice of medicine and does not have the finances to put him through one of those long courses, will take the other one, at the osteopathic school or some other makeshift, and locates in the country some place, with the result that throughout the country in general there is getting to be a lowering of the average standing of physicians.

Courses of university extension, to give them some of the later ideas in medicine which will keep the men in the country abreast of the times somewhat, have not been a great success because there are such a large number of them that have not had their fundamentals. They have been graduated from the cheap, makeshift schools.

The model course for a medical school should be, as Dr. Robinson suggested,—somewhat after the English system,—but the point that I would make is that for the average, ordinary practitioner, the course must not be elaborated too much and that the specialist must have had a primary degree before he goes into his special study.

Dr. A. H. Andrews, of Chicago, approved of a research school for research men, but would have prospective practitioners of medicine taught by successful practitioners. He believes in the idea that medical students must be taught by men who are devoting their whole time to the teaching is a mistake. That the old-time teachers, men who held their positions because of their conspicuous success in their practice of medicine, were an inspiration to the student—an inspiration that a man devoting his whole time to teaching, on a salary, rarely is able to give to his students.

Dr. Frank Deacon stated that the American Medical Association tried to induce the Carnegie fund to try and classify every hospital in the United States, but having started it and investigated the subject primarily, they came to the conclusion that the task was such a colossal one that they could not even begin



it, and it was dropped. The allied organization, the American Hospital Association, at their meeting in St. Paul, about 1914, brought this subject up and the chairman of the committee reported that nothing was to be done in the classification of hospitals; that the hospitals themselves had evinced a desire to do everything they could possibly do within a reasonable time, in bringing up the standard of the hospitals.

If certain hospitals are to be arbitrarily disapproved of, where are there enough hospitals to give internship to the number of graduates that are leaving the colleges? Great stress has been laid on the sincerity of the attempts, and the work which has been done in the classification of the medical colleges. He always thought the classification of anybody or any institution in America was contrary to the spirit which animated this country from the start.

The fact that this classification is leading to a reduction in medical students and, therefore, to the establishment of a more aristocratic standard in the medical profession, is not, by any means, an unmixed blessing. If this country should get into war with any of the great powers, we would be in exactly the same position as Great Britain is now, France, and other countries, where they are very willing to come over here and take American physicians to go to the front in Europe and give them a commission ranging anywhere from first lieutenant up to major.

Dr. Breakstone: It is necessary to have people who are not interested do the classification. As regards the University of Illinois, I have been down to Springfield before the legislature also, I believe that all education should be the function of the state, because then and then only will we have the proper equipment and be able to hire the proper men to educate. I was never in favor of spending a half-million dollars on the P. & S. nor any other existing school, but I wanted to see Illinois take \$5,000,000 and build a brand-new school—one that the whole country could be proud of.

I know a man in Chicago who holds clinics in some large hospitals, but they will not let him teach in a Class A school, because he happens to be a graduate of a Class B school years ago, when he did not know. Now that is a thing I object to. It is not always the school that makes the man. The fact is, in these schools where they teach every man to be a specialist,—really, the whole curriculum of the Class A school seems to be calculated to make every student a specialist in every one of the branches,—it drives many of those poor boys crazy. It does, and I know some of them who have gone crazy. We are trying to make professors of them. We are trying to make professors rather than practitioners of them, and I believe in the old way of giving the student some experience in the outside world. You take a Class A man: he goes to a high school, to a university, the medical school and then the internship, and then goes to Europe, and then he has not seen any of the world; he does not know men. All that he knows is school, and he thinks it is the same in the outside world as it is in the school. He does not know anything about the slums. You take him away from

the hospital and he does not know how to practice medicine. I believe it is all right to have good and better schools, but for the better schools to say that they only shall exist and try to induce the boards of health to license their people and no one else, that is the wrong idea, because the better schools will soon deteriorate for want of comparison. We do not condemn the efforts for the improvements of the medical education at all. We want to improve it, but on lines that will really do the public good. I would rather, when on my sick bed, call on an old country practitioner to treat me than a graduate from a Class A double-plus school.

### AN EPIDEMIC OF TYPHOID FEVER DUE TO THE USE OF A POLLUTED WATER SUPPLY AT THE 1915 ASSEMBLY OF OLD SALEM CHA- TAUQUA.\*

HARRY F. FERGUSON,

Assistant Engineer, Illinois State Water Survey; Formerly  
Assistant Engineer, Illinois State Board of Health.

URBANA, ILL.

There resulted from the use of a polluted water supply at the 1915 assembly of the Old Salem Chautauqua a large epidemic of typhoid fever, which, though presenting nothing new from an epidemiological standpoint, serves to emphasize the danger of incurring typhoid fever infection at summer camps and picnic grounds where insanitary conditions are allowed to prevail and adequate attention is not given to the quality of the water supply. Sanitarians have realized that there is a tendency for persons to more or less abandon sanitary precautions while camping or on summer vacations to the country, and much has, therefore, been written on this subject warning people of the dangers involved. However, owing to the coming and going of vacationists and the scattered location of their homes it has generally proven difficult to obtain data on any large outbreak coming from a summer camp. In the Old Salem Chautauqua epidemic we have a striking example of such an outbreak, and it should serve as a warning to vacationists and to the management of summer resorts.

#### DESCRIPTION OF OLD SALEM CHAUTAUQUA GROUNDS

The Old Salem Chautauqua grounds, comprising about 60 acres, are located in Menard County about a mile south of Petersburg (Fig. 1).

\*Read before the Public Health Section, sixty-sixth annual meeting of the Illinois State Medical Society, at Champaign, May 17, 1916.

The Sangamon River, flowing in a northerly direction, forms the western boundary. The topography of the grounds is very pronounced with the exception of the northern part, where it is very flat and subject to overflow at high stages of the Sangamon River. [Chautauqua assemblies have been held since 1897, and there have been constructed in this time many buildings, including an auditorium, hotel, bathhouse, memorial and society buildings, and slightly over one hundred private cottages. The cottages are occupied by the owners and their friends during the assemblies and in addition many tents are erected to accommodate other campers. The Old Salem Chautauqua assemblies have been re-

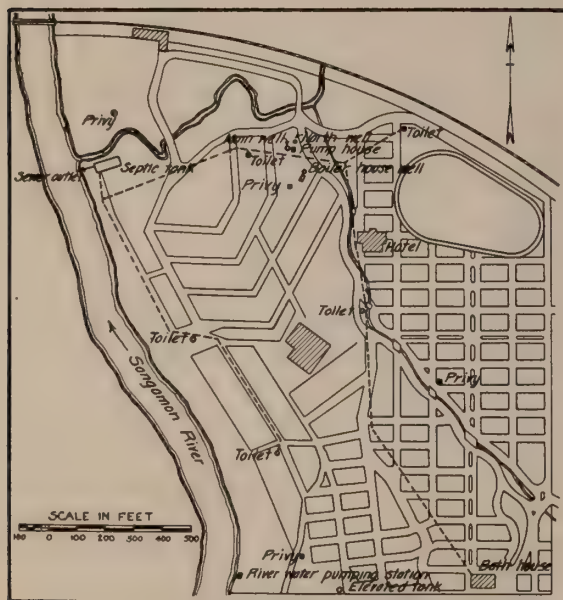


Fig. 1. Plat of Old Salem Chautauqua Grounds, Showing Waterworks and Sewer Systems.

markably good, and have gained a widespread reputation. This is shown by the fact that in 1905, 4,000 people, coming from 33 states and territories and five foreign countries, lived on the grounds. Due to the advent of traveling chautauquas the attendance has fallen off of late years, and the estimated daily attendance during the 1915 assembly varied between 500 and 3,000.

In the early days of the Chautauqua, public water supply and sewerage systems were installed. The sewer system covers the grounds fairly completely and the sewage, after passing through a septic tank is discharged into the Sangamon River at the northwest corner of the grounds.

#### OLD SALEM CHAUTAUQUA WATER SUPPLY

There are two separate sources of water supply, namely, a supply from wells for domestic use, and a supply from the Sangamon River for the bathhouse, for flushing purposes, and for use in the hotel kitchen. Polluted river water might well



Fig. 2. Interior of Bathhouse and Swimming Pool, Old Salem Chautauqua Grounds.

have caused typhoid, especially as used in a swimming pool at the bathhouse (Fig. 2), but since there is no evidence that such was the case the river water supply will not be dwelt on here. It may be noted in passing, however, that a few cross-connections between the river water and



Fig. 3. Waterworks, Old Salem Chautauqua Grounds.

well supplies controlled by single valves existed in a few cottages.

The domestic supply is obtained from three dug wells located on the low land at the northern end of the grounds (Figs. 3 and 4). One of these wells, which furnishes most of the water, is designated the main well, and the other two



the north well and boiler house well, respectively.

The main well (Figs. 5 and 6), is about eight feet in diameter and about 33 feet deep below the ground level. The walls, which consist of two rings of brick laid with horizontal joints cemented, extend about five feet above the level

about 15 feet below the ground level, and then sand and gravel. The height of the water in the wells is materially affected by weather conditions and by the stage of the Sangamon River.

#### POLLUTION OF WATER SUPPLY

All three wells are subject at all times to more or less contamination. A sewer (Fig. 8), passes within about 16 feet of the main well and a privy is located only about 110 feet away and on ground about 14 feet higher than that at the wells and draining towards the wells.

The most serious danger of contamination, however, is by flood waters of the Sangamon River, and it was contamination in this manner that caused the outbreak of typhoid. The pollution carried by the Sangamon River consists of the sewage of Springfield entering 27 miles upstream, possible wash from privies on the watershed between Springfield and the Chautauqua grounds, and the sewage from the Chautauqua grounds itself. Assuming a velocity of three miles per hour it would take only nine hours for the sewage of Springfield to reach the Chautauqua grounds.

The wells had previously been flooded during an assembly in 1907, resulting in a large outbreak of diarrhea. The cause of this diarrhea was so apparent at that time that the sickness became locally known as the "Chautauqua Quickstep."

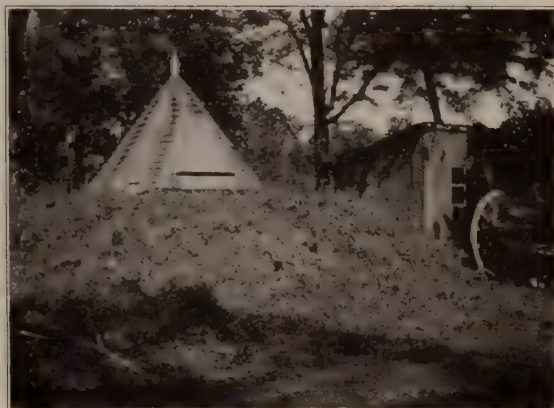


Fig. 5. Main Well and Pump House, Old Salem Chautauqua Grounds.

of the ground, and are surrounded by an earthen embankment. Surmounting the walls is a conical wooden roof. The walls are not water-tight at any level and where a suction pipe enters the well several bricks have been removed. The earthen embankment is about six feet wide at the top and has side slopes of about 1:1. There is a hole in this embankment along the top of the suction pipe leading to an adjoining pump house and in addition there are several holes on the outside of the embankment evidently burrowed by field mice or other animals. Water is drawn from this well by means of a steam-driven pump and discharged into a distribution system to which is connected an elevated tank (Fig. 7).

The boiler house and north wells are also dug and walled with brick and are about 25 and 28 feet deep respectively. The walls of each rise only a few inches above the ground and are surmounted by plank covers which are not water-tight. Both of these wells are provided with hand pumps, and in addition may be drawn on by a steam pump located in the top of one of them and discharging into the distribution system. This steam pump was not operated during the 1915 assembly, and thus only water from the main well entered the distribution system.

The ground formation at these wells consists of a few feet of top soil, then a layer of clay to

Thus the Chautauqua Association was aware of the dangers involved in continuing to use these wells as a source of water supply. Moreover, the State Water Survey, on the basis of analyses, had on three separate occasions notified the Chau-



Fig. 4. Pump House, Main Well and North Well, Old Salem Chautauqua Grounds.

tauqua management that the water was not safe and should not be used unless boiled.

The 1915 assembly was held from August 11 to 25, inclusive. A few days before the close of the assembly, namely, on August 20 and 21, heavy rains occurred causing the Sangamon River to rise rapidly, overflow its banks, and inundate the northern part of the Chautauqua grounds where the wells are located. The flood waters submerged the north and boiler house wells and entirely surrounded the main well, rising within a few inches of the top of the earthen embankment (Fig. 6). Unquestionably, the polluted water seeped through the earthen embankment, aided by the small holes of burrowing animals, for the water became turbid. The pump pit was flooded, but the pump was operated for a while submerged,

longed and constituted a serious though non-fatal forerunner of the typhoid outbreak. This relationship of typhoid and diarrheal infection due to polluted water has been shown to exist by a study of many water-borne outbreaks. It is clearly stated in the following quotation from page 835 of Preventative Medicine and Hygiene, by Rosenau.

Polluted waters not infrequently cause diarrhea, sometimes as widespread epidemics, sometimes as small outbreaks, or sporadic cases. Whenever there is a water-borne outbreak of typhoid fever there are also a large number of cases of diarrhea and gastro-intestinal disturbances in which the precise etiological factor has not been discovered. Some of these cases may be mild instances of the major disease.

*Magnitude of typhoid epidemic.*—The epidemic of typhoid was very explosive in character and

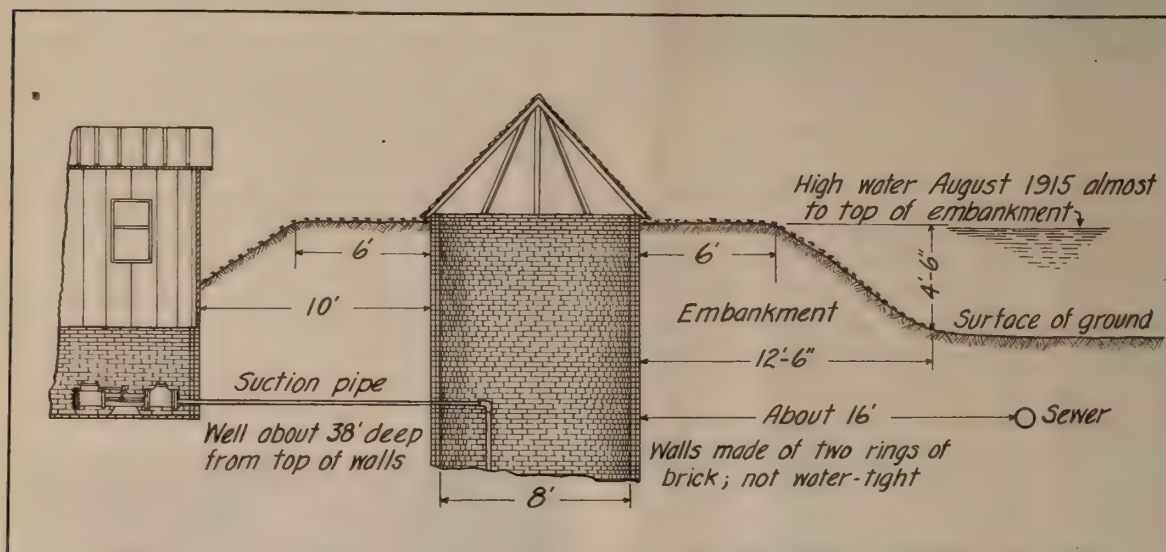


Fig. 6. Sectional Elevation of Main Well, Old Salem Chautauqua Water Supply.

and since the water is pumped into a distribution system to which is connected an elevated tank, this sewage-polluted water was available for use under pressure during the last three or four days of the assembly. The water continued to be served at the hotel dining-room and restaurant.

#### TYPHOID FEVER EPIDEMIC

*Epidemic of diarrhea preceded typhoid epidemic.*—About a day after the wells became polluted cases of diarrhea began to develop and the first case of typhoid fever occurred on September 1, ten days after the pollution took place. The actual number of cases of diarrhea was not ascertained, but an estimate of 500 would be very conservative. Many of these were severe and pro-

involved a large number of cases. In all records were obtained of 201 cases and 13 deaths, thus giving a mortality rate of 6.5 per cent. Probably both the morbidity and mortality rates were higher than this since neither cases nor deaths were consistently reported and it was impossible to know or communicate personally with all persons who had been exposed to the infection. The infection was very severe, but in several instances the patients' symptoms were considered unusual by attending physicians. The nature of some of these cases is best described by the following quotation from a physician's report on one of his patients.

This seemed to be what we used to call (30 years



ago) typho-malarial fever. She had a fever continuous for about four weeks running from 99° to 103°. She had a clean tongue all the time, no sordes or fissures, no eruption on the abdomen, no diarrhea nor distention of the bowels, no hemorrhages of any kind, no delirium, no trouble of the stomach, and was fed freely on raw eggs, milk and Mellins' Food. No symptoms of typhoid outside of the continued fever.



Fig. 7. Elevated Tank, Old Salem Chautauqua Grounds.

*Chronological distribution of cases of typhoid.*—Figure 9 shows graphically the chronological distribution of the cases, and their relation in point of time to the flooding of the Chautauqua wells. The cases have been numbered in the order of their incidence and this numbering was used in discussing the individual cases in the original report. Many cases that had an attack of diarrhea immediately following the pollution of the Chautauqua wells, apparently fully recovered, and then later developed typhoid fever; other persons experienced similar attacks of diarrhea and did not develop typhoid. Several cases, and these comprise some occurring in the latter part of the outbreak, experienced the preliminary attack of diarrhea and though recovering from the acute character of that illness never felt entirely well and finally developed typhoid. This

preliminary illness has been disregarded in selecting the dates of incidence and thus some cases have been relegated to the latter part of the outbreak, which might be placed among the earlier cases. They serve to show, however, that persons may become infected and carry the typhoid germs in their system for a considerable time before actually being taken ill with the disease.

Notation has been made on the diagram of those cases which were of secondary origin, that is incurred their infection from contact with earlier cases. There were 14 such secondary cases and in addition six others who had been exposed to typhoid infection at the Chautauqua grounds and again in their own households by contact with earlier cases, and, therefore, may have been either primary or secondary cases.

*Geographical distribution of cases.*—Though the epidemic centered at Petersburg, Illinois, it was widespread in extent. In all 26 incorporated communities were affected, and the most remote cases were two persons who, though residing in Illinois, were taken sick while visiting in California and entered a hospital in San Francisco. The municipalities affected and the number of

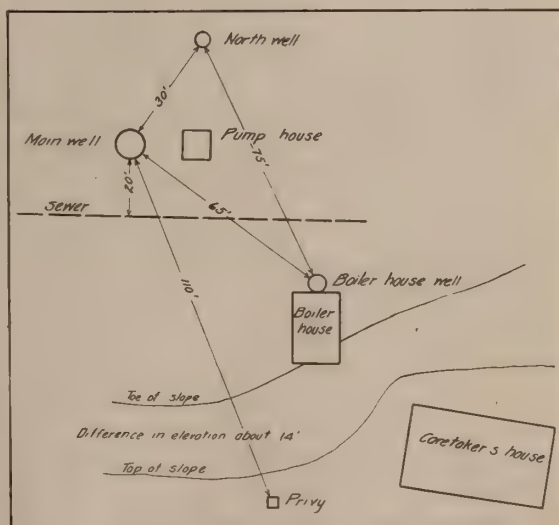


Fig. 8. Sketch Showing General Layout of Old Salem Chautauqua Waterworks.

cases occurring in each are shown in Table 1. For simplification cases residing in the country have been listed under the nearest incorporated community to them, with the exception of the cases near Petersburg which have been separately listed under the heading Petersburg rural free delivery.

Table 1. Distribution of cases according to place of residence:

Municipality—	No. of Cases of Typhoid.	Municipality—	No. of Cases of Typhoid.
Ashland .....	2	Middletown .....	1
Athens .....	24	Newmansville .....	1
Atterberry .....	3	Oakford .....	1
Auburn .....	1	Pekin .....	1
Chapin .....	3	Peoria .....	2
Chicago .....	2	Petersburg .....	68
Decatur .....	3	Petersburg, R. F. D. ....	32
Fancy Prairie.....	2	Pleasant Plains.....	6
Farmingdale .....	1	Springfield .....	6
Greenview .....	16	Tallula .....	4
Haskins, Iowa.....	1	Tice .....	3
Havana .....	1	Virginia .....	3
Jacksonville .....	1		
Lincoln .....	8	Total .....	201
Mason City.....	5		

The large number of cases occurring at Petersburg, namely, 68, or 2.8 per cent. of the population of that city, was due to the proximity of the Chautauqua grounds, which enabled a large proportion of the residents to attend the Chautauqua assemblies. The same reason explains the fact

ception of the eastern edge. This eastern edge comprises the poorer residential section and the people who reside there could not afford to and did not attend the assembly as much as the more well-to-do people. It is interesting to note that although this section of Petersburg became flooded at the same time the Chautauqua wells were flooded, the wells in this part of the city are practically all driven and thus escaped dangerous pollution.

*Distribution of cases according to families, ages and sex.*—The cases were distributed among 154 households having a total membership of about 725. Table 2 shows this distribution among households in detail.

Table 2. Distribution of cases of typhoid fever among households:

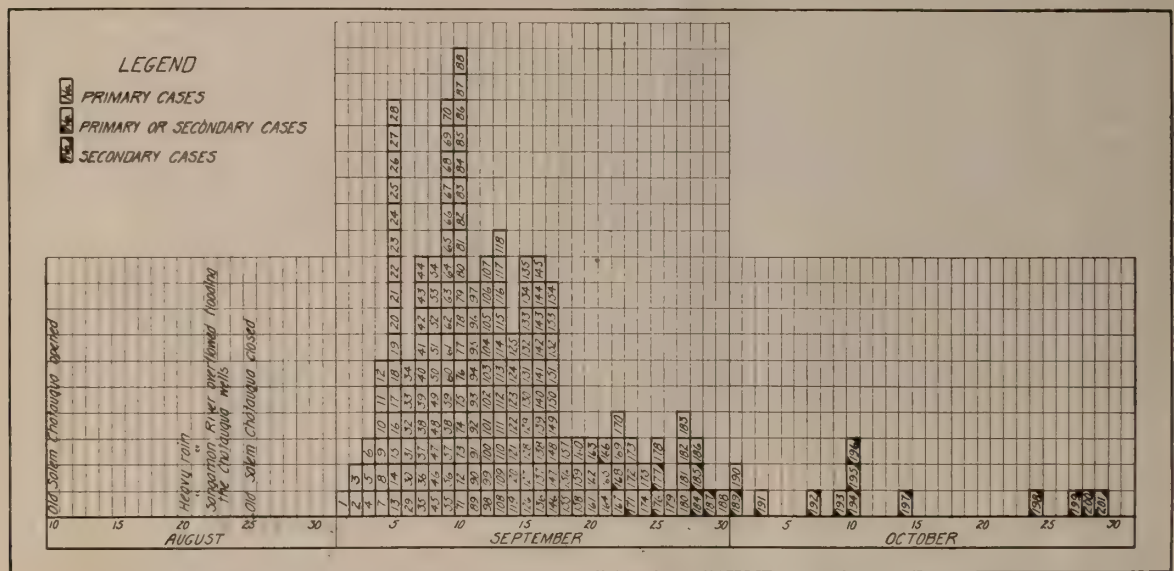


Fig. 9. Diagram Showing Chronological Distribution of Typhoid Cases, Old Salem Chautauqua Epidemic.

that 153 of the 201 cases were residents of Menard County. Based upon the population of Menard County of 12,796, as given in the 1910 U. S. Census Report, 1.2 per cent. of the population were victims of the epidemic.

The distribution of cases within a community was studied only for Petersburg, and for this purpose a map of that city was prepared showing by means of colored tacks the location of each case of typhoid. Different colored tacks were used to differentiate between cases treated at homes, at hospitals, recovered cases and fatal cases. The map showed the cases to be more or less evenly distributed over the city with the ex-

119 households contained 1 case each.....119 cases  
30 households contained 2 cases each..... 60 cases  
3 households contained 3 cases each..... 9 cases  
1 household contained 4 cases..... 4 cases  
1 household contained 9 cases..... 9 cases  
154 households contained a total of.....201 cases

In the household containing nine cases only one was a primary case, the other eight resulting from it. The sanitary conditions prevailing at this household were very poor and the physician, when he was finally called in, found that little or no precautions were being taken against spreading the infection.

Table 3 shows the age and sex distribution of the cases:



TABLE 3. DISTRIBUTION OF TYPHOID FEVER CASES AS REGARDS AGE AND SEX.

Age, Years—	Sex		Total.
	Male.	Female.	
4	..	..	..
5-9	8	9	17
10-14	17	24	41
15-19	17	17	34
20-29	23	38	61
30-39	11	12	23
40-49	4	10	14
50 and over	5	6	11
All ages	85	116	201

Though the cases have been distributed among all ages except the very young, Table 3 shows a preponderance of cases among the older children and younger men and women. This is more clearly shown by Table 4, in which the cases are grouped under fewer age periods. It will be seen that two-thirds of all the cases were between the ages of 10 and 30 years. This age distribution is characteristic of epidemics where the sources of infections are general ones to which persons of all ages are equally exposed, such as epidemics caused by a polluted public water supply. Two examples of such epidemics may be cited from "Typhoid Fever" by Whipple, pages 108 and 142. In an epidemic at Waterville, Maine, caused by a polluted water supply, 64 per cent. of all cases were between 10 and 30 years of age. In an epidemic at New Haven, Conn., also due to polluted water, 50 per cent. of all cases were between the ages of 15 and 30 years. The high morbidity rate of the youths and middle-aged under such conditions is explainable from the fact that of the total population the percentage of persons at these ages is always high.

TABLE 4. DISTRIBUTION OF CASES OF TYPHOID FEVER AS REGARDS AGE.

Age, Years—	Number of Cases.	Per Cent of Total.
9	17	8.5
10-29	136	67.6
30 and over	48	23.9
All ages	201	100

The very high percentage of cases among young and middle-aged persons in this epidemic even for water-borne outbreaks warrants special mention. Although at normal times the percentage attendance of young men and women at the Chautauqua may not have been unusually high, the prevailing bad weather at the end of the assembly when the Chautauqua wells became flooded tended to restrict the attendance to only the younger and more active people. A ball game with a team from Lincoln, on the last day, was of interest to the younger people and also the Forest Players playing Shakespeare's plays, was a special inducement for school pupils to attend.

Table 3 shows that the number of cases among females was slightly greater than among males. Expressed in percentages of the total number of cases, 58 per cent. were females and 42 per cent. males. The excess of females is not large enough to be very striking or significant, yet, if anything, it is suggestive of the Chautauqua assembly. There were more female than male campers at the Chautauqua, as the men had to attend to their regular work, especially the farmers taking care of the late harvest, and thus many men were able to attend the assembly only occasionally and for short visits. The baseball games in the afternoons, probably attracted more males than females, but the baseball fans' visits would be short and thus they were not so liable to partake of the Chautauqua water as the campers or those that came and stayed on the ground all day.

HISTORIES OF CASES SHOWED THAT CHAUTAUQUA WATER WAS THE CAUSE OF THE EPIDEMIC.

During the first part of the investigation and study of the epidemic a blank form for recording the information about each case was not used, although very complete data was obtained. After obtaining records and information of over 100 cases and sufficient data to indicate that the infection came from the Chautauqua grounds the following blank form was prepared and used to obtain the records of the remaining cases, especially those residing in communities which could not be personally visited:

REPORT OF CASE OF TYPHOID FEVER.

Note:—Answers to questions should be as complete and accurate as possible. Wherever possible, give exact dates.

1. Name of patient.....Age....

2. Address .....

3. Occupation (if student state school and grade) .....

4. Patient at home or hospital.....

Is nurse attending.....

5. Date first felt ill.....

6. Date physician was first consulted.....

7. Name of physician.....

8. Dates and results of Widal tests.....

9. Number of members in household.....

Number of cases.....

10. Number of members that have been inoculated. ....
11. Water used at home and at place of business .....
12. Milk obtained from whom.....
13. Did patient attend Old Salem Chautauqua? State whether stayed in cottage or tent or just attended daily.....
14. Exact dates patient was at Chautauqua .....
15. Did patient use: Chautauqua water.....  
Distilled water.....Coffee.....Iced tea.....  
Bottled soda.....Ice cream.....
16. Did patient use milk at Chautauqua, and if so from whom was it obtained?.....
17. Did patient eat at Chautauqua hotel?....  
Where else? .....
18. Did patient use Chautauqua baths?.....  
Swimming pool?.....
19. How many other members of family attended Chautauqua?.....
20. Have other members been sick in any way? .....
21. Additional remarks .....
- .....
- .....
- .....
- Name of person supplying information.....
- .....
- Name of person obtaining information.....
- .....

The detailed data relative to milk, water and food supplies of the patients will not be presented here. In brief it may be stated that there was no food or milk supply common to a large number of people either at their homes or at the Chautauqua grounds. Many people had not eaten on the grounds with the exception of lunches which they brought from home, and over one-half the cases had not used any milk sold on the grounds. At one time rumor spread that distilled water and bottled soda might be a contributory cause, but this rumor was found upon investigation to be absolutely baseless, and as a matter of fact, people who took the precaution to use distilled water in preference to the Chautauqua water supply escaped typhoid infection.

Of the 201 cases of which records were obtained 14 were undoubtedly secondary cases. The 187 remaining cases had been on the Chautauqua grounds at the time the wells became polluted.

Of these 182 gave definite records of having used the Chautauqua water; four others were not sure whether they had drunk the water, but were sure that they had drunk iced tea or coffee made with this water, and also had eaten at the hotel where the water is used. The one remaining case did not remember drinking the water or tea or coffee made with it, but had eaten at the hotel where the water is used.

An effort was made to arrive at an estimate of the number of persons who were exposed to the infection by using the water, but sufficient reliable data could not be obtained. The total attendance at the Chautauqua the last three days, or after the wells were flooded, it is estimated, amounted to about 7,000, but how many persons are counted in this attendance two or three times it is difficult to estimate, and no data obtained makes it possible to draw any conclusion as to what per cent. of the attendance actually used the water.

#### DISCUSSION.

Dr. Robertson thought all we need to do is to study the records of the number of deaths from typhoid fever in Baltimore, to understand that there is something which makes the typhoid mortality high in that city—the highest or next to the highest of any large city of over 500,000 population, about 24 in 100,000 this year, whereas the city of New York has 6 in 100,000, Boston this year had 5.5, while Chicago led all the cities in the United States with 5.4 in 100,000.

Floods should always be a signal to the health officer of the community to get busy, watching for possibilities of polluted water supply. A few years ago, in Chicago, about 1903, we had a terrible flood, the basements downtown were flooded, and following that we had one of our greatest typhoid epidemics. At that time with a plumber he went down in the manholes on the west side, down in 5 ft. sewers, on the theory that it was the backed-up sewers that produced the typhoid, because many of those manholes were bubbling out sewage on the street. When the flood of Jan. 21, this year, came, he predicted that we were going to have an epidemic of typhoid in that vicinity.

Dr. Vanderslice, Oak Park, in view of the valuable papers contributed to the Section on Public Health by officials of the State Water Survey and by the Sanitary Engineer of the State Board of Health, suggested that this section should have an invitation list, and that each year we would send out to the sanitary officers of the various municipalities and the State Public Survey and the sanitary engineer departments of the State, a regular list asking them to take part in our meetings and add something to our programs.

Dr. Drake, Springfield, referring to the question of source and the recommendation of typhoid vaccine, cautioned against too much reliance upon typhoid vaccination. Any person with a gross infection of



typhoid, vaccination will not always protect. Forty cases of typhoid developed in this state where the persons had received an anti-typhoid vaccination several months previous. We believe also that if we encourage the public to rely too much upon the anti-typhoid vaccination, that we are developing a disregard for all the sanitary precautions. In the army, of course, it can be pointed out that an anti-typhoid vaccination has been singularly successful, but I also want to point out that they have not relaxed one particle in their ordinary sanitary precautions.

The State Board of Health, through its sanitary engineering department and its division of communicable diseases is preparing to take as complete a survey as it possibly can make, with its limited forces, of the Chautauqua, the picnic grounds and summer resorts of the State of Illinois. At least, we are going to cover the northern Illinois resorts quite a bit more thoroughly than we have in the past. Our experience in the past two years teaches us the absolute necessity of inspecting these places. The unfavorable publicity that the Old Salem Chautauqua got from its epidemic of typhoid fever has had the result of closing that permanently, and it ought to be a lesson to other Chautauquas and other summer resorts.

Dr. Bartow of Champaign was impressed with the widespread influence of these two epidemics which have been discussed, which seemed to illustrate the necessity of cooperation as we have had it in these investigations by all the state governments and the federal governments. Perhaps one of the important means in reducing the typhoid fever rate is the clearing up of the typhoid fever situation at Niagara Falls. Before they put in the water purification plant the rate was 170 per 100,000, and after the water purification was put in the typhoid rate dropped to below 20, and the typhoid rate in the city of New York and the whole state of New York was lowered. Now, it would seem that a resort like Niagara Falls must, with its typhoid fever, affect the whole United States. If the little Salem Chautauqua could cause typhoid fever rate to be increased in California, how much greater would be the typhoid caused by a place like Niagara Falls? The work which Dr. Drake of the State Board of Health is doing in clearing up these resorts should help reduce the rate throughout the whole State, and we have also the cooperation of the State of Michigan and possibly the State of Wisconsin in clearing up their resorts.

Mr. Hansen thought that the situation with reference to the oyster industry in the east is perhaps at the present time not quite as black as it has been painted, because the various state boards of health along the coast, as well as the United States Public Health Service, have been very active in the last few years in stopping the gathering of oysters from polluted beds, and it is due to that activity in a large measure that oysters have not been gathered from around Cambridge, where there is so marked a pollution. Of course, the situation is not as good as it should be now, but it is receiving attention and the health authorities are receiving valuable cooperation

of the oyster packers themselves, and nobody who is in any way connected with this epidemic was so incensed over this situation as the packing firm that shipped the oysters. They felt that they should have been notified as they expected to be by any persons from whom they obtained oysters, that there was typhoid fever at the collecting point.

But probably the typhoid fever rate in certain more or less southern cities, like Baltimore, is maintained high by eating raw oysters, as Dr. Robertson suggested, but there are also various other causes that are characteristic of the southern cities. Probably the most influential cause is the carrying of typhoid fever by flies. Recent investigations made by the United States Health Service with reference to the adequacy of typhoid vaccines discloses a startlingly large percentage of the vaccines that are on the market are inefficacious and they are about to warn all health officers to make sure their typhoid vaccines are carefully tested before they distribute them. They believe that by thorough testing of the typhoid vaccines they can be made effective and believe the results obtained in the army are due to the fact that their typhoid vaccines are tested. I may say that the investigation of summer resorts is now in full fling and we hope to have a report available by the opening of the summer season so that the results may be published.

Mr. Ferguson (closing discussion) said, concerning typhoid vaccination, that in the Old Salem epidemic one man was ailing forty-six days before he finally went to bed with typhoid. He had been inoculated not quite a year before. In a recent epidemic at Pana, that you must say is still in existence since many people are still sick, there are at least two people that have been inoculated against typhoid that are sick with it.

## THE IMPORTANCE OF BACILLUS CARRIERS IN THE PROPAGATION OF DIPHTHERIA.\*

GUSTAV F. RUEDIGER, M. D.

LASALLE, ILL.

From the Hygienic Institute for La Salle, Peru and Oglesby.

It is no longer a disputed fact that many people who have been in contact with a diphtheria patient will temporarily harbor the specific bacilli in their nose and throat. It is also well known that a very large per cent. of all recent "contacts" are harboring bacilli of full virulence. Very different results are obtained, however, when cultures are taken from the throat and nose of healthy persons who have not been recently exposed to diphtheria. Under such circumstances only from 1 to 2.5 per cent. yield positive

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

cultures and about 95 per cent. of these are entirely non-virulent.<sup>1</sup>

In a tabulation by Nuttall & Graham-Smith of over one thousand recent exposures where cultures were taken the following results were obtained:

1. Among members of the same family where the patient was isolated from 10 to 50 per cent. yielded positive cultures. Where the patient was not isolated from 50 to 100 per cent. were infected or became temporary carriers.

2. Attendants on the sick gave positive cultures in from 12.5 to 48 per cent. of the tests.

3. Among relatives of the sick who were not confined to the same house positive cultures were found in from 12 to 38 per cent. of tests, and,

4. Among school children where diphtheria was prevalent positive cultures were obtained in from 2.5 to 45 per cent.

In another tabulation of 227 recent exposures with positive cultures, where virulence tests were made, 80.1 per cent. were found to be harboring the virulent organisms.

It would seem from these observations that the recent "contacts" who had become temporary carriers or were suffering from a very mild and unrecognized infection must play an important rôle in the propagation of this disease. This statement is fully verified by our experience with recent outbreaks of diphtheria in the schools, as well as by the experience of other health departments where immediate control of every outbreak is undertaken.

During the last two years we have had eight outbreaks of diphtheria in the schools of LaSalle, Peru and Oglesby, but only one of these resulted in what may be called an epidemic. This outbreak occurred in October and November, 1914, and was handled by Drs. Edward H. Hatton and O. C. Yoder of the Hygienic Institute. During the month of September three cases were reported from one of the assembly rooms of the Central school in Peru. Six cases developed during the first twenty-four days of October and an average of one case every day during the last six days of the month and the first three days of November. On November 4, 28 pupils in one of the sections of this assembly room, which seemed to be suffering most from the infection,

were cultured and 8 positive cultures were obtained. On the following day, Thursday, the remaining 85 pupils in this assembly room were cultured and 7 more positive reactors found. All of these positive reactors were immediately excluded from school and quarantined in their homes. School was dismissed from Thursday until Monday to give the janitors time to disinfect the room, desks and books, and on Monday morning all pupils returning to school were again cultured and sent home for the day. Two more reactors were found and isolated and from that time on no new cases were discovered among the pupils of this room for more than a month.

Five of the 17 pupils who gave a positive culture developed clinical diphtheria within five days after the positive cultures were obtained, during all of which time they would have gone on infecting others had they not been immediately isolated on the strength of the cultural findings. Two had had diphtheria within three months previously and had been released after two negative cultures had been obtained on consecutive days. Ten of the 17 positive reactors at no time showed symptoms of clinical diphtheria, although 3 of them harbored the bacilli for more than 35 days. At least three of the latter group of carriers we know were capable of transmitting clinical diphtheria to others. One of them infected a smaller brother and sister who were not of school age and both had a typical and severe form of the disease. A second carrier infected a sister, a high school pupil who was not otherwise exposed; and the third infected a smaller brother, an adult sister, who was not attending school, and a one and one-half-year-old girl. All of these had typical diphtheria. The further activities of this carrier were checked by giving an immunizing dose of antitoxin to all other members of the household.

The seven other outbreaks that came under our observation were checked promptly in each instance after two cases had been reported from the school room. In one of these instances 54 cultures were taken and two carriers found and isolated. One of these had a small brother ill with diphtheria at home, but the case had not been reported. It is very probable that the other carrier found in this school and the two cases that had been reported a day or two pre-

1. For a review of the literature on this subject see Nuttall & Graham-Smith: *The Bacteriology of Diphtheria*, 1913, pp. 192; and Goldberger, Williams & Hachtel: *Hygienic Lab. Bull.*, No. 101, 1915.



viously were infected by this carrier. In three other outbreaks where 32, 43 and 45 cultures were taken we found 4, 4 and 5 carriers respectively. All of these were immediately isolated and the desks and woodwork disinfected, and no further cases developed in these rooms within a month. In the other three outbreaks only one carrier was found and isolated in each, but no further trouble was experienced in these rooms.

One of the carriers in these seven groups last mentioned gave a negative culture on the 6th day, twelve on the 8th day, one on the 9th day, and four on the 14th day. Release cultures were taken usually on the 4th day after the positive culture had been obtained and thereafter every other day until two negatives were obtained on consecutive days. No virulence tests were made, although there can be no doubt but that they are of value, especially if the carrier gives no history of having been recently exposed to diphtheria. Antitoxin was not given as a routine unless clinical signs and symptoms supervened.\*

#### CONCLUSIONS.

The following conclusions seem warranted from the foregoing considerations:

*Bacillus* carriers who have been recently exposed to diphtheria frequently transmit an infection to others which gives rise to clinical diphtheria, although the carrier may never show any clinical symptoms of the disease.

These temporary carriers I believe are of the greatest importance in keeping up an epidemic in a school or any other place where large numbers of persons are congregated.

In order to rapidly check such an epidemic it is necessary that throat and nose cultures be taken from every "contact" and that all those who give a positive culture be isolated, unless it is proven by animal experiment that the culture is devoid of virulence.

I do not believe that it is possible to pick out the carriers by a mere inspection of the throat and nose as recently advocated by Lewis.<sup>2</sup>

\*Since this paper was written we have had another instructive experience with a temporary carrier. A boy was found in school suffering from diphtheria. Cultures were taken from both throat and nose of all of the thirty-seven pupils in the school. Eight of these were positive and were excluded from school. One of these carriers, who showed no signs or symptoms of diphtheria, infected a smaller sister and his mother at home and both became ill with the disease.

2. Lewis: The Control of Diphtheria, Jour. A. M. A., 1916, LXVI, 1535.

#### DISCUSSION (ABSTRACT)

Dr. A. L. Mann, of Elgin: The persistence of sporadic cases of diphtheria at the State Hospital at Elgin for two or three years and the inability to account for their presence suggested the advisability of having all the patients, everybody on the ground (between 2,500 and 3,000) cultured. The one or two attendants showing clinical signs of the disease were isolated. One was isolated in St. Luke's hospital four or five weeks until the clinical symptoms subsided entirely, but the culture from the throat showed luxuriant growth. She then stayed home for three or four weeks longer, until Drs. Goethe and Mann found, on two successive days, two negative cultures, when she was allowed to return to the hospital to her duty. Three days after she was returned to the hospital Dr. Sell found positive cultures in her throat, and it was necessary to isolate her three weeks more before satisfactory negative cultures were taken from the throat.

This fact should impress the necessity for making repeated cultures for negative results. Ordinarily two negative cultures on two successive days do not determine the condition. There were over 65 cases out of 2,500 or 3,000 that showed positive cultures. How many of those were strictly virulent were not found when the inoculations were made. This work was done last November and only last week was the last carrier released from quarantine.

Anti-toxin treatment never makes any impression on these carriers. They simply wear themselves out as the body of the individual furnishes the necessary resistance to overcome the infection.

A Voice: Doctor, did you use the lactic acid culture?

Dr. Mann: I do not recall whether we used the lactic acid culture or not; we used everything else.

Dr. Hemenway, of Evanston, advocated the use of lactic acid bacilli, not in tablet form, but in powdered milk, which is a convenient way of giving it. He suggested the advisability, at the opening of every school year, of taking at least a percentage culture in every room of all the schools. It is hardly advisable to go through the whole school, but if children are taken at random in every room, you are likely to get trace of where you are going to have trouble in the future.

Dr. Robertson, of Chicago, related his first experience with diphtheria carriers as an intern in the Cook County Hospital, where, during June, 1897, he and Dr. A. Paul Heineck were located in the contagious disease ward. After being there for five or six days cultures from each other's throats indicated that they were diphtheria carriers during that thirty days and remained carriers for five or six days after leaving the contagious disease ward.

Last year, as commissioner of the Chicago Department of Health, he contemplated doing what Dr. Hemenway stated, namely, culturing the throats of 300,000 children in the public schools and another

100,000 in the parochial schools, but found that it was absolutely impossible with the force available. As the next best thing, 50,000 children that had a history of any kind of nose or throat trouble were cultured last winter, and about 4 per cent of them were diphtheria carriers. In other words, 2,000 children were excluded from the public schools last year,—about ten times as many children as were ever excluded before.

The Christian Scientists and the League for Medical Freedom were on his neck almost every day. "My child has been sent home. There is absolutely nothing wrong with this child. She did not have diphtheria; it was her sister that had diphtheria." Such statements as that come right along. Whether it just happened to be the case or whether this had anything to do with the reduction of diphtheria in Chicago last winter, it was about 20 per cent less during last winter than the winter before and the corresponding winters, because it has been running about the same rate.

If we could educate the public to permit us to examine all the throats or do the way they did in the Chicago University in the scarlet fever epidemic,—paint all the throats with iodine, together with the Schick's test,—we will be able some day to control diphtheria in our city.

Dr. Ruediger: In the treatment of chronic carriers we used the lactic acid cultures, that is, whey from sour milk, which the patients used faithfully as a gargle. It is difficult to ascribe beneficial results, which appear to be gotten, to the use of any remedy because the bacilli will disappear even if we do not use any remedies. Dr. Weaver, of the Durand Hospital in Chicago, is of the opinion that practically every chronic carrier has some tonsil trouble, and that the condition will be remedied if the tonsils are removed.

One of our Public Health nurses had been a carrier and had repeated attacks of diphtheria; her tonsils were removed about a year and a half ago, and she ceased to be a carrier.

We culture all sore throats in our schools. It does not make any difference what the clinical picture is, if there is any history of sore throat, we take a culture and find a great many sore throats that do not give the picture of diphtheria at all and yet give a positive culture.

There is a tremendous opposition in some quarters to isolating these carriers when they are not sick. I recall one particularly last fall. The father made all sorts of threats. He was not going to get any physician from La Salle, Peru or Oglesby, because, he said, "they are all in cohorts." He said, "I will get a physician from somewhere else." He was going to carry this thing to the very limit. That is all we ever heard of it. He didn't do anything at all.

## RESULTS AFTER FOUR YEARS USE OF ARTIFICIAL PNEUMOTHORAX.\*

LEROY S. PETERS, M. D.,

ALBUQUERQUE, N. M.

It is a far cry from the early attempts at artificial pneumothorax to the present method which has proven most efficient in the treatment of unfavorable types of tuberculosis. Like all new procedures, much grief resulted from faulty technique and failures were common from lack of understanding in the selection of suitable cases. Time and patience only were necessary to put the method upon a sane and practical basis, and today treatment of tuberculosis by artificial pneumothorax stands out by far the most promising of any method yet introduced.

We need not say that clinical impressions lead us to think thus and so, that we believe such results can be obtained, or that empirically speaking our patients seem better. *We know.* It resolves itself into a statement of plain facts, not theory. In other words, we have passed from the realm of medicine to that of surgery, from the realm of uncertainty to that of fact. We have learned many interesting certainties, which time and experience alone can teach, and many have been the sacrifices on the altar of knowledge. One need but look through the literature to acquaint himself with this fact. But this same time and this same experience has placed the procedure beyond the pale of doubt, and today one can feel perfectly safe by the exercise of reasonable care and judgment and the employment of average ability.

In the selection of cases one must follow to a certain extent his own judgment, although a few dogmatic statements covering the field roughly may be laid down. Some observers advocate compression in early cases, and from a consideration of results thus far obtained in unfavorable types one would feel that perhaps there is justification in such advice. However, I feel that unless for financial reasons the patient must hasten his cure, early cases are best let alone, for the majority recover by the usual routine. I would divide the selection of cases as follows: 1st. The typical gas case, and for that reason the most favorable, is the unilateral; but waiting to find this type would narrow the field for pneumo-

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



thorax to a limited few. 2nd. Bilateral cases with not too much active trouble on the opposite side offer excellent chances, and they make up the large percentage for operation. As a matter of fact, as I shall show later, many of the opposite lungs are made better, while in the majority no progression is noted. 3rd. Extensive trouble on both sides with hopeless outlook, and in which the lesser offender is partially compressed to relieve symptoms. 4th. Compression for hemorrhage. To make the indications more general one might say that all cases are suitable for attempted compression that have been under observation for some time and show no improvement or are progressive under the usual routine treatment.

It is not within the province of this paper to cover the field of pneumothorax, but I felt that a few generalities might not be amiss. However, it is my purpose to give to you the results after four years use of the method and to bespeak from a study of these results the continued use and wider application of this procedure in the treatment of tuberculosis.

During the four years we have attempted pneumothorax in 135 cases and obtained a suitable compression in 103, 32 being inoperative because of adhesions. Of these 135, 14 were in the moderately advanced stage and 121 were far advanced, all being unfavorable types. Five were compressed because of hemorrhage and in eight pleurisy with effusion had already made the compression and we simply introduced air as the fluid absorbed or had to be withdrawn because of pressure symptoms. In the bilateral cases the opposite side was made worse in eight and better in 18, no change being noted in the remainder. Thirty-six showed some complications as shown in the appended table. Fluid developed in 29, or 28.15 per cent of all cases treated. There is little doubt that given sufficient time varying amounts of fluid will develop in the great majority of cases, and those who report small percentages have used the method too short a time or have failed to find small collections, which, as a rule, can be detected only by use of the fluoroscope.

Last year I reported before the National Association for the Study and Prevention of Tuberculosis our exudate cases, and in that report I spoke of 12 effusions that became purulent. Eight of these showed on culture and by inoculation

only the presence of the tubercule bacillus, and two a mixed infection. In two we did not obtain cultures owing to the fact that they left the institution. One of the mixed cases was due to a spontaneous pneumothorax, and although I could not so determine, I believe the other to have been of the same nature. In other words, infection was from within and not from without. These pus cases developed two years ago, and none has developed since, although we get the same percentage of fluids. I have never been able to offer an explanation, but about this time we stopped using nitrogen purchased of a Chicago firm and began the use of filtered air, which we have used ever since. May it not be possible that the nitrogen contained impurities of an irritant nature which caused inflammatory reaction with rupture of tubercles on the pleura, thus freeing large numbers of tubercule bacilli into such fluid with ensuing pus formation?

It is interesting to note that after watching these eight tuberculous pus cases for one year, all are well and the pus cavity dry, their recovery being similar to all serous effusions. The two mixed cases are still living, both having been operated upon and drainage put in. In one of these the sinus is closed, he has gained 23 pounds in weight and to all appearances is perfectly well. There is rather a marked deformity owing to contraction and filling in of the pus cavity. The other still has a discharging sinus, but at the present time is working and running normal temperature. In neither of these was a rib resection done—merely an incision between the ribs and the introduction of a rubber drainage tube.

Coming now to results we have 28 cases under treatment, or 27 per cent of the total number. Of these 10 per cent are arrested, 64 per cent improved, 17 per cent stationary and 7 per cent progressive. It may be well to note here that we have followed the new classification of the National Association and that referring to arrested cases we refer to the type formerly termed "apparent cures." We have 33 patients that have been discharged from one to three years and 9 under one year. We have discharged a total of 75 patients. Of these approximately 31 per cent are arrested, 13 per cent improved, 9 per cent stationary, 3 per cent progressive and 44 per cent dead. At the present time we have 20, or 19.41 per cent, working at various





not this is true to-day, I don't know), I believe there should be a distinction made.

A contagious disease is one that may be conveyed from one to another through contact, or possibly air-borne. An illustration of this definition may be noted in smallpox, measles, scarlet fever, etc. An infectious disease must be transmitted from the afflicted to the healthy through the alimentary tract, respiratory tract, or direct inoculation through the blood, as is demonstrated in typhoid fever, typhus fever, yellow fever, tuberculosis, etc. But as the source of infection of poliomyelitis is to-day unknown, we are probably excusable for using this combination of terms. Just what the source of infection of poliomyelitis is, or the exact organism that produces it, is unknown to-day, but I hope that the scientists and research workers who are laboring so diligently in this direction will soon be able to give us more definite knowledge relative to the etiology, as well as the treatment of this dreaded disease.

Flexner of the Rockefeller Institute recently stated that a minute, filterable micro-organism has been secured in artificial culture, which is the cause of the disease, but little has been given to the profession regarding it.

Whether poliomyelitis belongs to the contagious class of diseases, or the infectious class, according to my definition given above, is a mooted question. Personally, I regard it as an infectious disease, and do not think it contagious in the sense that measles, scarlet fever, smallpox, etc., are contagious. I assume personal responsibility in making this statement, and would not want to be quoted publicly, for the reason that at the present time rules and regulations are laid down by our higher health officials for quarantining of poliomyelitis, as if it was the most violent contagious disease. I have no disposition to criticize this, but, on the contrary, I strongly endorse it, for, as I said, the source of infection is unknown at present, and until it is definitely settled, there is a great responsibility resting upon the health official in authority, and for the good of humanity and the safety of the rising generation, it would not be short of criminal negligence for health officials in authority to take any chances in their efforts to control this most dreaded disease.

No doubt I could have given you a much more interesting paper, and also no doubt would have been much more edifying, if I had had the time

to consult different authorities and indulged in a little plagiarism, but as I have been pretty busy for the past few weeks, I have had no time for this, but will give you, mostly, a few original thoughts gleaned from personal experience, consequently, as I said, I do not expect my remarks to be much of an education to you, but possibly it may have the effect of bringing out a discussion and some original thoughts from some of my fellow-practitioners, whom I deem it an honor to address.

During the past two months I have been engaged almost exclusively in investigating poliomyelitis for the State Board of Health. During this time I have seen something over 65 cases. The youngest of these cases was five months old, the oldest case 29 years. To the best of my knowledge, in only four families has the second or more cases developed. This in itself would not be conclusive proof of it being a contagious disease, neither would the fact that so many have escaped the second case prove to the contrary, but in a purely infectious disease the same conditions that produce it in one member of the family may produce it in another. This is demonstrated in typhoid fever and other similar infections. About two months ago I saw two cases in one family in Decatur. The second case developed five days after the first case. Surely this would look suspicious as a contagion, but I saw these same cases a few days ago, and the mother gave me information I did not get on my first visit. She told me that even after the first child complained of being sick, his little sister chewed some of his gum. Could anything be more effective than this, as a direct inoculation?

Diseases that were considered extremely contagious a few years ago have since proven to be infectious, and by removing the cause of infection the disease has been controlled. Prominent among these is yellow fever. A few years ago the most rigid quarantine regulations were established, and states would even quarantine against their sister states. After the wonderful discovery of Dr. Finlay and his co-workers the real source of infection of yellow fever became known, and the disease became easily controllable. I don't believe that a really contagious disease is entirely controllable by climatic influences. Smallpox, measles, diphtheria, etc., seem to thrive better in cold weather, still hot weather does not entirely eliminate them. Yellow fever was a

summer disease, and, before the discovery of the cause, it was an established fact that cold weather entirely eliminated the disease. Poliomyelitis is a summer disease, which impresses me with the idea that it is an infectious disease, in which the child is inoculated by taking the germs into the system through food, or directly inoculated by some insect. Certain animals have diseases similar to poliomyelitis in the human. In quite a number of isolated cases that I have inspected I have found on the premises sick chickens, dogs, cats, etc. In one case in Edgar County, in making inquiry along these lines, the mother of the child stated she had lost two or three dozen chickens in the past few weeks. With the physician in charge of the case I went out and examined some of these chickens, and found them to be paralyzed, similar to a child infected with poliomyelitis. There were no reflexes about the lower extremities, but about the head they seemed to be perfectly normal. If poliomyelitis should prove to be produced through animal infection, the question might arise as to what produces it in the animal, but that, of course, would be a minor consideration. A few days ago I was riding on an interurban car from Decatur to Springfield. A very intelligent looking gentleman was sitting by my side, and I observed that he had, in his youth, been an unfortunate victim of poliomyelitis. I could not resist the temptation to introduce myself, in order to gain a little information, if I could, as to how the disease was considered in those days, which I rightfully suspected was more than a quarter of a century ago. He gracefully acknowledged and reciprocated the introduction, and he proved to be a very intelligent gentleman in fact, as well as in appearance. He was a professor of geology in one of our state universities. He said he had the disease when he was one year old, but that it was not called poliomyelitis, or infantile paralysis, at that time. This, of course, we know to have been a fact. In discussing the possible cause of the disease, as I found him to be apparently as eager to gain information about the disease as myself, he gave me this history about his own case. He said his mother found him out in the yard playing with a stray kitten. His mother took the kitten away from him, and discovered it was sick, and had it killed. A short time afterward he developed poliomyelitis, from which he has since been

a hopeless cripple. If the theory of animal infection, which some believe, should in the future prove to be correct, what then would be the source of infection? Will it be by contact? Will it be by the child inadvertently putting the fingers in the mouth after having handled the animal, or will it be direct inoculation through the medium of some insect? I believe either of the two latter theories to be possible. With the present limited knowledge of insect carriers, I believe the preponderance of evidence is against the quilty fly, especially of the green-head variety. A few days ago, in East St. Louis, I inspected a case of poliomyelitis in which I could not trace the origin of infection. In going over the premises I discovered a dead chicken which the family said had died rather suddenly, and described its symptoms as closely simulating paralysis. Dr. White of St. Louis, who had been doing some research work along these lines, came over to investigate the case with me. We found the green-head flies merely swarming around this carcass, about which they had deposited thousands of eggs. We killed several of the flies, and found them all but bursting with their eggs. Dr. White took a few of the flies and the carcass of the chicken to his laboratory, but I have not heard the results of his investigations of this case.

Dr. Flexner says that paralytic diseases among poultry and pigs have been noted to coincide with the appearance of poliomyelitis on a farm or in a community, but that they had been excluded as being carriers of the disease, and that the disease from which they suffer has long been known to be quite different from poliomyelitis. And he says, further, that their occurrence may be coincidental. No one in this room, not even I, will doubt for a moment the superior value of Dr. Flexner's opinion, but, as I have said, this paper is made up largely from a few original thoughts, which I gleaned from personal experience. I know that I am addressing medical men who nearly, if not all, are like myself. We have no fully-equipped laboratory at our command, and few of us would be qualified to get the desired result if we had one. So, in the absence of any definite knowledge through our teachers, who gather and prove facts by the aid of these laboratories, we must gain our ideas from a different source. We must use extreme care in arriving at a diagnosis from both the objective and sub-



jective symptoms. We must be keen observers, and then let our ideas crystallize as the result of these procedures. No one has a higher regard for Dr. Flexner's opinion than I have, but for so many isolated cases of poliomyelitis to develop far out in the country, unable to trace any other source of infection, and discover these sick animals on the premises, as I have described, strikes me very forcibly as being a little more than a mere coincidence.

The diagnosis. No one is an infallible expert on the diagnosis of poliomyelitis. This, doubtless, will remain true until the laboratory will furnish some method of settling doubtful cases, as in diphtheria and typhoid fever. Formerly poliomyelitis was considered a disease from which the child never fully recovered. Today this is regarded as a grave mistake by all authorities. It is regarded as a fact now, that we have many cases of poliomyelitis of the so-called abortive type, in which there is not even any paralysis. A recognition of this fact and a diagnosis of these cases, if possible, is very important, as they become "carriers" from which the most malignant cases may develop, and this greatly hampers the efforts of the health officials in stamping out the disease. In an isolated case of this kind, however, I consider a positive diagnosis next to impossible, with our present knowledge of the disease. The prodromal symptoms of poliomyelitis will also vary a great deal. As is well known, poliomyelitis occurs in the great majority of cases in children, about 90 per cent., I believe, under ten years of age. My own experience has verified this. In many cases of very young children, the subjective symptoms are impossible to get. In these cases, as the history is given by the mother, we find that the child has had fever for from one to three days, or possibly more, crying when being handled, which would indicate tenderness, and then they would notice an inability to use one or both legs, or possibly the arms. In older children, who are able to describe the subject symptoms, we will find, aside from the fever and sick stomach, they complain of headache, principally in the back part of the head, tenderness along the spine, and probably along the muscles involved. The sensory nerves are not involved, but there is an absence of reflexes, particularly the patellar and cremasteric. Some authorities, I note, speak of the reflexes sometimes being present, and other times absent. To the best of my recollection, in

only one case where I felt reasonably sure of my diagnosis, was the patellar reflex present, and that was in the man 29 years old, and the diagnosis was strengthened in his case by connecting it with a well-marked case in a near relative's family, with whom he had associated. Added to these symptoms are usually restlessness, drowsiness, etc. The paralysis usually develops within three days. Sometimes shorter, and sometimes much longer, but three days has been the period in the great majority of my cases. Where I have received a history of an unusually long period of prodrome, I am inclined to think that the paralysis escaped notice for a few days.

In making a diagnosis of poliomyelitis, a physician should examine the case with his mind perfectly unbiased, and, by doing this, I think a great many mistakes would be avoided, and possibly a great many unrecognized cases would be recognized. I find that too many physicians during an epidemic, or threatened epidemic of a disease, will have their minds too firmly fixed on this particular disease to enable them to make an impartial diagnosis. I had this fact impressed on my mind years ago when investigating smallpox. Many excellent physicians would jump at conclusions and make a diagnosis of smallpox, and wonder how they could have made such a mistake, when I convinced them they were dealing with a case of chicken pox, syphilis, or some other eruptive disease. I was called to see one old lady, 65 years old, for suspected poliomyelitis. She had a blood pressure of 200 mm. and a paraplegia that was plainly due to a blood clot on the brain. I was called to see another case of suspected poliomyelitis, in a young lady 21 years old, that proved to be hysteria. I know I made no mistake in this case, for I performed a miracle (?) (in the eyes of the family), and cured her before I left the house.

Prophylaxis. There is nothing much to be said about prophylaxis in poliomyelitis. The only known means of prevention, as we understand it today, is isolation and disinfection. The State Board of Health requires a strict quarantine of five weeks, at the end of which a thorough disinfection of the premises is demanded. As many authorities seem to think that the infection is given out, as well as received, through the mucous membrane of the nose and mouth, it is well to look after this part of the child's anatomy, the patient as well as the exposed children.

An irrigation or cleansing of these parts with some recognized antiseptic, is all that could be advised. There is one thing, however, which I cannot refrain from mentioning in this connection, and that is, forbid children from playing with pet cats and dogs.

**Treatment.** If my remarks on etiology, symptomatology and prophylaxis have been a disappointment, I fear my remarks on treatment will be more so. Personally, my experience in the treatment of poliomyelitis has been very limited. It is useless to say that a specific is yet to be discovered. The treatment in the acute stage is largely empirical. Urotropin is given quite often, probably on the theory of it being an antiseptic, but just what influence it could expect to have in attacking a lesion of the spinal cord is beyond my comprehension. If, however, the germs of poliomyelitis extend to the mucous membrane of the bowels, as some authorities seem to think, it may be of some benefit. Iodides also are given quite frequently, but I share the same opinion of this drug that I do of urotropin, unless perchance the child should be of a scrofulous diathesis, or presents evidence of inheriting a luetic taint. Strychnine carefully given at the proper time may be of some value. About the injection of adrenalin, I can add nothing to what you have already read in your journals. I believe the future treatment and cure of poliomyelitis, if we are so fortunate as to discover a cure, will be through the serum route. The serum treatment, however, is at present in the experimental stage. Just what degree of success is being obtained, I am unable to say. It does not seem unreasonable to me, however, that the antitoxins in the serum secured from an immunized patient would attack and neutralize the micro-organisms responsible for causing poliomyelitis. I do not doubt that poliomyelitis is a constitutional or blood disease, with a predilection for attacking the spinal cord, the same as diphtheria is a constitutional or blood disease, the germs of which have a predilection for attacking the mucous membrane of the throat and trachea. If this theory is correct, I believe scientists are on the right track, and I truly hope they will soon be able to demonstrate the efficacy of this treatment to a certainty.

In the acute stage of poliomyelitis, I believe the patient should remain as quiet as possible. I do not think that massage should be advised

early in the case. While it may have no bad effect on the muscles involved, I think it is liable to irritate the child, and possibly prolong the acute stage, if not increasing the liability of causing an extension of the lesion of the spinal cord.

After the acute stage has passed and the child is beginning to gain strength, I believe massage should be carried on vigorously and systematically. Here is where gentlemen of the osteopathic cult may play an important part, but I would not advise any of my fellow-practitioners to turn their patients over to these gentlemen, for if you have the time and patience, I think you can do equally as well. Electricity may also be used to advantage in the latent stage, if used properly, but never advise the parent to buy a battery and use it himself on the patient. There is another matter which I wish to mention in this connection, which would not be necessary if the laws of our country were such as to always protect the ignorant and unwary, but as they are not, it again becomes the duty of the physician to act the part of the good Samaritan. Quacks and unscrupulous representatives of mechanical appliances are following in the wake of this disease, the former claiming to cure paralysis by some miraculous drug or power, and the latter, the representatives of mechanical appliances, urging upon the parents the necessity of some brace or mechanical appliance to either assist the impaired muscles, or correct some deformity caused by the disease. There is no doubt but that braces and appliances do good in some cases, but the judgment of this should be left to the competent physician, or orthopedic surgeon. But I will say in conclusion that, whatever the treatment, either medicinal or mechanical, the physician who has a very extensive practice in poliomyelitis will many times be doomed to bitter disappointment and his little patients to a life of partial helplessness.

---

#### NOTES OF A CASE OF INFANTILE PARALYSIS.\*

C. F. HEWINS, M. D.,  
LODA, ILL.

Eleanor McFarland, aged 6 years, had scarlet fever in November, 1915, with endocarditis, fol-

---

\*Read at the meeting of Iroquois-Ford Medical Society at Gibson City, Ill., Sept. 5, 1916.



lowed by sore throat, which recurred several times.

Present illness began Aug. 2, 1916, with sore throat and fever. I saw her first Aug. 3 at 1:30 P. M. Pulse, 120; respiration, 36; temperature, 102.5. Has nose bleed and red, swollen tonsils, with vertical headache, and backache. Complains of great weakness. She walked from one room to another, but limped. Abdomen distended. Ate nothing today. Bowels moved well. Has vomited. I gave her a gargle of Sod. bicarbonate, novasparin 5 gr. every 3 hours, and laxative.

Aug. 4, 1916, 8:40 A. M.: Pulse 116, respiration 22, temperature 100.3. Nose obstructed, but has not bled. She slept badly. There has been a small stool from laxative and enema. Has vomited once this morning. Ate nothing. The throat looks better. Heart dullness is enlarged to the left. There is endocarditis. I applied silver nitrate 10 per cent. to tonsils and gave calomel,  $\frac{1}{4}$  grain, and soda 1 grain every two hours till four are taken, or bowels move. 8:30 P. M., pulse 150, temperature 104. She has vomited several times today. Not since 5 P. M. About 8:50 P. M. I gave her a graduated bath for 10 minutes to reduce fever. After this, temperature was 103 (mouth). She has passed no urine since 12 M. No stool. I gave her phenacetin 5 grains and 1 grain calomel and 4 grains soda. She vomited about 10 P. M. and following this vomited many times, a brown matter with a little blood, a coffee-ground vomit. A period of collapse followed this. Surface cold, pulse imperceptible at wrist; two hypodermics of strychnia sulphate, 1/60 gr., 40 minutes apart, helped the pulse greatly. It returned at the wrist, and the surface became warm slowly. After this she rested quietly.

Between 12 and 1 a. m. Dr. Wylie saw her with me. She had not used the left leg well all day. I noticed the paralysis distinctly about 9 or 10 P. M. At that time it was complete in left leg, but she could move the toes slightly. Right leg could be drawn up in eversion and abduction. Breathing was embarrassed, quick and irregular.

12:30 A. M., Aug. 5 I got 4 fl. oz. urine by catheter. About 9 P. M., Aug. 4, and soon after, she had three or four copious, very dark liquid stools. None after 12 P. M. These were not offensive, and seemed to result from the calomel.

She rested quietly then, and I left her about 1:30 A. M., the 5th.

Her mind was clear all this time. At 5 A. M., Aug. 5, she was sweating profusely, and I gave her strychnine sulphate 1/30 gr. and atropine sulphate 1/200 gr. hypodermically. This improved the pulse and checked sweating. The pulse improved and could be counted at wrist, but was very rapid, as high as 180.

From 6 A. M. she became irrational with nystagmus and twitching of fingers, had a convulsion at 7 A. M., and death occurred at 7:30, the heart ceasing first, then respiration.

From 5 A. M. to death she did not use or move the right leg, but it lay helpless beside the left one, the foot extended. All leg and knee reflexes absent. Pupils dilated widely just before death. They had been unequal a short time before.

There was much tenderness of spine and extremities.

---

## THERAPEUTIC STARVATION IN INFANCY.\*

JOSEPH BRENNEMANN, M. D.,  
CHICAGO.

Overfeeding is now quite universally accorded a foremost place in the etiology of gastro-intestinal disorders in infancy. So persistently have the dangers of overfeeding been dinned into us, in season and out of season, by physician and layman, by newspaper and magazine writer, that we have come to look upon it as the only great danger. In our zeal not to overstep the upper limit of an infant's diet we have all but forgotten the most elementary fact that the lower limit also cannot be transgressed with impunity. I, myself, have long been convinced that prolonged underfeeding, especially as a therapeutic measure in the treatment of all manner of acute disorders in infancy, is one of the most common, and one of the most serious errors that we make in feeding babies. It is the chief purpose of this paper to call attention to this widespread custom of leaving babies on a starvation diet for long periods of time far beyond the necessities of the case; and to emphasize the fact that while it is often necessary to starve a baby for a short period of time in order

---

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 18, 1916.

to remove some digestive disturbance, in doing so we are only combating a greater by a lesser evil. *In itself, starvation is always harmful*, and is not infrequently a menace to life itself. This statement requires no evidence to support it—it is the statement of a self-evident fact.

It is still the almost universal custom to reduce radically the food of any infant that is sick, no matter what the illness. A course of calomel and a day or two or more of barley water is still quite the rule no matter whether we have to deal with a dyspepsia or an ileo-colitis with diarrhea, or a pneumonia with constipation. The reasons are more or less evident. An infant vomits with nearly every serious acute illness, especially with those accompanied by high fever; the tongue becomes coated, the breath strong, and there is either diarrhea or constipation. If now the real cause of this disorder is not evident, and the cause is not always evident, then what is more natural than to fall back on the diagnosis of "intestinal trouble" which has the sanction of hoary tradition as the one great cause of infantile disorders, *especially the obscure ones!* That a radical reduction in diet, even to complete starvation for a short period, is rationally indicated in purely digestive disorders with a diarrhea that is nearly always present, is evident enough. It is not so evident in the non-digestive disorders that the diet should be reduced beyond the point to which Nature herself reduces it by taking away the child's appetite. It is well, then, to consider therapeutic starvation first in digestive disorders; second in parenteral infections; and thirdly to call attention to a few other conditions in early infancy that are characterized by inadequate nourishment, either qualitatively or quantitatively.

A baby that has a true digestive disorder, i. e., a diarrhea due to food, is usually given a cathartic, and is placed for 24 hours on a water, or tea, or cereal water diet. Following the cathartic there may be an increased or a lessened number of stools, depending upon the severity of the diarrhea and the nature and dosage of the cathartic. The stools that result from the cathartic are usually more or less greenish and always contain a great deal of mucus. After the cathartic has effected its purpose of removing all food from the intestinal tract, while the baby is still on a starvation diet, the succeeding bowel movements no longer contain milk remnants and are there-

fore not yellow. The water or tea or cereal water is wholly absorbed and the baby has a stool that is identical with that of a baby that is getting no food. This *starvation or hunger stool* is made up of intestinal secretions, bile pigments, etc., with no milk admixture, and is, therefore, always very soft, of a greenish brown color, and is largely made up of semi-transparent mucus. There are commonly two or three stools a day. Such a stool is just as normal for a baby on barley water as is a soft egg yellow, mushy stool for an infant on the breast. Such a brownish, green, slimy stool is, therefore, in itself an indication to resume feeding rather than to continue the starvation diet, for a barley water diet is practically identical with starvation.

The lack of appreciation of the fact that a *hunger stool* is a normal stool, and of the further fact that cathartics cause not only an increase in the frequency and looseness of the stools, but also an increased amount of mucus, and a greenish color, is responsible for the following vicious circle that is by no means uncommon:

A baby has a slight diarrhea and it is given a cathartic and nothing but barley water for 24 hours. The next day the stools that are unfortunately not inspected personally are reported to be still "a little frequent, quite loose, greenish and slimy." "Loose, green, slimy and frequent" are terms that have become synonymous in both lay and medical mind, with a pathological stool—and a pathological stool requires catharsis and starvation! The cathartic is repeated and the barley water is continued for another 24 hours. The stools remain the same, or get a little worse, and the same treatment is continued. The stools are anxiously watched for the return of the "normal" yellow color which will never come back so long as the child is being purged and is given no milk. *A yellow stool on a barley water diet is just as likely to occur and would be just as normal as would a purple stool on a milk diet!*

It is a very familiar fact to all of us that babies are kept on such a starvation diet, not only for one or two days but even for as many weeks. Often the food is changed after a time from barley water to rice water or oatmeal water, which often satisfies the mother, but has no appreciably different effect on the baby. The use of small amounts of whey, of albumin water, or of broth



or buttermilk for prolonged periods of time, belongs still in the near starvation category. All of these things are so well illustrated in the following extreme, but nevertheless typical case, that I cannot refrain from giving it at some length:

A normal child of 19 months, living in an adjoining state, weighed 25.5 pounds, and was perfectly well until one evening he became "feverish and restless." The subsequent history is given in the mother's own words: "That evening his bowels moved four or five times. The movements were loose and somewhat green and distressed him quite a little, for he cried a great deal. The following morning I gave two teaspoons of castor oil. Three or four movements followed this, still green and unnatural in composition, containing quite a little mucus and undigested food. Toward the latter part of the afternoon the movements, two or three in number, began to look darker in color (moss-green) and entirely mucous in composition, but with no signs of any bloody discharge.

"I called a physician who prescribed a tablespoonful of castor oil, also an enema (normal salt). The movements the second night, about three in number, were lighter green, but still contained a great deal of mucus. The next morning the doctor prescribed another tablespoonful of castor oil, also an enema, both of which I was ordered to continue twice a day, until the movements improved in color and composition. The baby was put on a light diet of broth, a few ounces several times a day. As the movements refused to clear up the doctor ordered all broths discontinued and ordered albumin water (half of the white of an egg in a few ounces of water, for a feeding), four feedings a day.

"For two weeks I gave the baby according to the doctor's orders, a tablespoonful of castor oil every morning and every evening, and an enema every morning and every evening. Throughout these two weeks the movements were never more than four or five in number in one day, but continued to have the same green color, with a lot of dark brown, or almost black mucus, scattered through them.

"At the end of two weeks the doctor on the case was taken ill himself, and was obliged to leave town, leaving the case in the hands of Dr. Y. Dr. Y. ordered me to discontinue the giving of castor oil. He prescribed a pink tablet (which I found afterwards to be calomel), to be given every two hours until three had been given. This in addition to other medicines I gave for nearly three weeks. I was giving so much medicine I had to make out a schedule and figure closely to crowd it all in.

"The albumin water ('the worst possible thing to use in bowel trouble,' Dr. Y. said) was dropped and the baby put on whey—five feedings of 2 oz. each the first two days. The third day 4 oz. with two teaspoonfuls of milk to each feeding. In a few days I was allowed to give 6 oz. with four teaspoonfuls of milk. When, however, the stools began to contain curds all milk was stopped and whey alone given.

"After two weeks of this second mode of treatment the stools still contained mucus in large patches, were greenish-brown in color and of a very fetid odor. The stool still contained some curds, so the doctor discontinued the whey and ordered buttermilk—4 oz. to a feeding, four or five times a day, or broth and buttermilk to be used alternately.

"At the end of five weeks the baby was as limp as he could be. He could no longer walk, or stand, had no inclination to play and had lost about six pounds in weight.

"I might add that never at any time did the baby have any temperature over 99.6, with the possible exception of the first night, when he was so restless he wouldn't let me take it."

From this history, and from the absence of fever and of blood in the stools that excluded an ileo-colitis, and from the subsequent course, I think this was a case of therapeutic starvation, directly through withholding of food and indirectly through catharsis. I think it was Schlossmann who has aptly used the expression "*Inanition ex-Medicis.*" The child was given 20 ounces of boiled milk, 20 ounces of barley water, two dishes of farina and a slice of toast the first day. The stools at once changed from the condition described above, to brownish yellow formed stools, and with rapid increase in food the baby gained 20 ounces the first week, and remained perfectly well. I feel confident that the same gain in weight and general wellbeing would have taken place at any time after the first day or two if the child had been similarly fed and all cathartics stopped.

That food should be withheld in these cases for 12 to 24 hours is clearly indicated—but the burden of proof lies with those who maintain that it should ever be withheld longer. The intestinal canal is emptied in less than 24 hours and is ready to receive small amounts of food to be increased as rapidly as possible. That a robust infant can stand a starvation diet for many days and get away with it is demonstrated daily, but that such prolonged starvation, unless necessary, is injurious and not beneficial needs only to be stated. In some severe cases of marasmus, where all the vital functions are at the lowest ebb—a day of starvation often enough determines a fatal result. It is in these cases, where the harmful effect of starvation is at its maximum, that one is convinced of the un wisdom of the general application of the rule, "When in doubt give barley water and castor oil."

Even more unreasonable than prolonged reduction in food is repeated catharsis. A single cathartic may be indicated at the beginning, but it is hard to see any reason why it should be repeated, when the intestinal tract is empty and no new food is being given. If food is being given, then continued purgation is an indirect method of starvation because it removes the food again before it can be assimilated and digested.

Repeated cathartics not only rob the infant of the little food that is granted it, but they are likewise irritating and weakening. Many an adult feels weak and nagged after a moderate dose of calomel and yet babies are given repeatedly 0.5 of 1 grain in divided doses, without any reference to the fact that such a dose would correspond to 10 to 15 grains in an adult. The mucus that is always an integral part of a calomel stool is an evidence of the irritating effect of the drug. And yet every day we hear the statement, "the baby's bowels were in terrible condition—you should have seen the amount of mucus that the calomel brought away—even after we repeated it the second and third days!" I am strongly inclined to think that tradition, the sweet pink pill, and that comfortable feeling that comes from having some definite routine thing to do, are responsible for the continued use of calomel in these cases and not any tangible therapeutic advantage. I have myself used no calomel in this class of cases for many years, and practically never use it in any other condition, not because of any prejudice, but simply because I can see no benefit from it that compensates for its disadvantages.

The case against castor oil is much less evident. Quite unlike calomel, which often nags and irritates the bowels for some time, castor oil commonly reduces the number of stools and leaves a less irritated and more constipated condition of the bowels than before its administration. The chief objections to its use are the difficulty in giving it in many cases, the frequency with which it is vomited, and the open question of whether it really does much good to give any cathartic in diarrheal conditions even at the beginning. Personally, I rarely give even the initial dose, and certainly never repeat it in the same acute illness.

If in the purely digestive disturbances prolonged starvation is not indicated, then it is surely even less necessary, or desirable, to starve the

baby that has some parenteral infection, such as pneumonia, typhoid, grippe, ileo-colitis, etc. The vomiting that occurs so regularly, especially at the beginning of infections, is purely reflex or toxic, and is not conditioned upon whether the child takes food or not. The baby is usually constipated and there is, therefore, no indication for radical reduction in food, beyond what Nature has instituted by taking the child's appetite away. It is hard to see any reason why a child with pneumonia, or grippe, should be put on barley water for several days when it has no evident digestive disturbance. Mild cathartics are here indicated to relieve the accompanying constipation, but it can usually be left on a diet that is very little, if any, reduced from that which it has been taking. It is equally hard to see why the distinction should always be made between "solid" and "liquid" food, with light cereals, toast, etc., classified as solids, and milk as a liquid. As a matter of fact cereals and toast are very soft and mushy, almost liquid in composition after they enter the stomach, while milk, especially if given raw, forms a large, hard curd that actually increases in size for several hours, and physiologically should be classed among the most solid foods. There seems to me no reason, rationally or empirically, why one should not in these conditions give all the usual "solid" foods that the baby is accustomed to, if it will take them.

In gastro-intestinal infections, such as dysentery or ileo-colitis, slightly different conditions exist. These are not primarily digestive disturbances, but are infections, not of the lungs or of the throat, but of the intestinal mucosa, and we have, therefore, not only the same conditions as in any parenteral infection, but the added factors of a functionally impaired intestinal mucous membrane, and an increased peristalsis that rapidly removes the intestinal contents from the field of digestion and absorption. These cases are pathologically more like typhoid, clinically more like the diarrheas of digestive origin. The food must be adapted to the peculiar conditions imposed by the disease, and wide divergence of opinion exists as to the most appropriate food. The indication, however, is to feed, not to starve the case, even though they continue to have frequent loose stools with large amounts of blood and mucus. An appropriate food will not make the diarrhea worse, and the child will get more nourishment to help combat the long and serious



illness, and therapeutic starvation will only tend to hasten the fatal end.

Several other instances of what I have chosen to call therapeutic starvation may be very briefly discussed here. The first of these has to do with an interesting condition observed only during the first few days of life. A new born baby that does not get its mother's milk, or some other food, in sufficient quantity will regularly run a temperature, commonly on the third day, occasionally on the second, and nearly always on the fourth, day. This temperature commonly runs from 101° to 103° F., but may go up to 105° or 106°. With no other treatment except the giving of milk, either from the breast or from a bottle, the so-called "*Inanition Temperature*" will wholly disappear as in the crisis of a pneumonia, within 12 to 24 hours. While it may, therefore, be normal for a baby to get very little food for two or three days after birth, after the third day, if the mother's milk has not come, it should be fed, and imperatively so if it has a temperature. These babies usually lose alarmingly, often a pound or more in a few days. The diagnosis of an obstetric infection, or of pneumonia, or of an intestinal toxemia is nearly always made, the baby is purged and even removed from the breast or from bottle food, whereas the administration of food alone will at once cure the condition. If untreated this temperature may persist for days, and even weeks—as, for example, where a baby is put to the breast regularly, but for one reason or another gets nothing. I have seen a case that after twelve days of starvation on a fruitless breast, with a constant temperature of 100° to 103°, became so weak that it could not take the nipple, nor even swallow when food was put in its mouth with a medicine dropper. Even then a few feedings with a *stomach tube*, a *therapeutic life line* that should be used more frequently in infancy, restored the child to a condition in which it could take first the medicine dropper and then the bottle, and even in this case the temperature dropped to normal and stayed there in less than 24 hours.

A little later in life one of the most frequent instances of therapeutic starvation is that of leaving the baby for a long period of time on an inadequate breast alone. The statement that we hear so often, "Well, he wasn't gaining, but we didn't worry because he was holding his own"—is, of course, all wrong. A baby normally gains

from 4 to 8 ounces a week, and if its weight remains stationary, that failure to gain should be given the same value as a rather rapid loss in an adult. A baby of 7 pounds at birth that "holds his own" is in a severe state of marasmus with its 7 pounds at 4 or 5 months of age. A baby that does not gain on the breast, and has no evident digestive disturbance, almost without exception fails to gain because it does not get enough to eat, and should be given additional food from the bottle.

Still later, in the second semester of life, there is a form of therapeutic under nourishment, or if I may use the expression, disnourishment, that is quite the rule. There are still a majority, perhaps, of mothers, and also many physicians, who think that a baby should be kept on the breast, or on the bottle exclusively till nearly, or quite, a year old. Now it is a well-established fact that in our day and generation, at least, babies that are kept on a milk diet alone will become pale, anemic, and very commonly rachitic, towards the end of the first year. The explanation has been offered that the relatively very large liver of the young infant contains an abundant depot of iron, that is consumed during the first semester of life, and is necessary to supplement the inadequate amount of iron contained in milk. In the second half-year of life this supply is exhausted and the infant must get additional iron from other foods to make up for its deficiency in milk, or else become anemic and often rachitic.

It is for this reason that it becomes desirable to begin other food than the bottle, or the breast, long before the end of the first year. This is especially true of the baby that has not done well on the ordinary bottle food. Such infants are best given so-called "solid," or "soft food," in addition to the bottle, as early as one can get them to take it—that is, they are fed as one would usually feed an older baby. I know of no surer therapeutic procedure in all the range of infant feeding, unless it be the use of breast milk, than is the addition of farina, cream of wheat, toast crumbs, or zwieback, broth, orange juice, etc., to the diet of an infant of 5 to 8 months of age that has not done well on the bottle alone and is constipated. It has, of course, been established that those so-called solid, or soft, or semi-solid foods are in reality much softer and more nearly liquid than is milk and they are nearly always well borne by the baby. In my own practice, the

time at which to begin such supplemental feeding has gradually been pushed down from 9 or 10 months, until now I begin as a routine the feeding of farina, toast crumbs, broth and orange juice at the fifth or sixth month, and in the case of the baby that does not do well on the bottle even at 4½ months. By the seventh or eighth month other cereals are added if desirable, and vegetables are added to the broth. By the ninth month the baby gets nearly all kinds of cereals, rice, toasts and crackers, vegetables, such as spinach, carrots, turnips, potato, asparagus tips, stewed celery, etc., either mashed up and finely divided in the broth or as a separate dish; baked apple, or apple sauce; scraped raw apple, crisp bacon, etc., all, of course, in addition to the regular bottle. On such a diet the pallor and general malnourishment of, say, an 8-month-old infant that has not done well on the bottle alone disappears in leaps and bounds. It is just these cases that have gone from one doctor to another, that have been cautiously tried on all kinds of infant foods and milk mixtures, and have not done well that form probably the largest single class of cases that ultimately go to the specialist. Then for the first time they are fed boldly all of these things that I have enumerated and that have been looked upon as "too solid" for a baby, and forthwith with almost mathematical regularity the baby gets fat and rosy.

The purely starchy foods can, of course, be added to the bottle in the form of flour, flour ball, Imperial Granum, etc., with, to that extent, the same therapeutic result. Even then it has almost seemed to me better to begin spoon-feeding early, for it is often difficult to get an older baby to take food from the spoon when it has so long been accustomed to the bottle alone as a means of taking nourishment.

I hope that in this rather rambling paper I may have brought out a few points that will be helpful to some one here, and will insure to some hungry baby a little more food than it might otherwise get at some crisis in its little life.

5803 Blackstone Ave.

#### DISCUSSION.

Dr. Clifford C. Grulee: I have not much to discuss, only to confirm. The truth of the matter is that the chief tests of a man's knowledge in the matter of infant feeding come when he has to distinguish when and when not to feed. After all is said and done that is one of the things you cannot learn out of a book;

you must learn it with actual contact with the cases. A great many general practitioners would rather take their information off of a can than out of a book. There is one point on which I must disagree with the essayist and that is the point of feeding babies as early as from six to nine months, the number and variety of the articles which he mentioned. In the first place, it is extremely hard when you spoon-feed a baby to estimate accurately the amount of food which you are giving that baby. I had four cases under my control, two of which have gone to pieces under cereal feeding in that way and two have gone to pieces with vegetable feeding in the same way. The amount of iron to be obtained in a food can be obtained very well with the various cereals, such as he mentioned, and you can measure out the quantity of cereal much more accurately by putting it into a solution with the milk. In my experience it has seemed that a great deal of my difficulty has come from the fact that these children have been fed too many things, rather than too few. And very frequently I have had success insisting that the mother shall feed the child what it does not want, with the result that the child's appetite would soon increase.

Another thing that should be mentioned is the question of pallor. In these babies the pallor is not due probably so much to the fact that they do not get a variety of food as it is due to the fact, as has been recently brought out, that there is a certain element in the milk fat probably which produces the anemia. The essential thing is not so much the increase in the iron element of the food as the increase in the elements of the food which produce the anemia, in all probability the milk.

Cathartics are really archaic in the treatment of diarrhea. I have not given a cathartic in diarrhea cases for years and I do not think I will ever give one again, although I may. And the starvation period should never be continued over forty-eight hours and seldom over twenty-four hours.

Dr. H. W. Cheney: These constipated babies are brought to the physician and are given laxatives day after day and week after week, but if, after five, six or seven months of age, you begin to feed them vegetable soups, cereals, fruits and fruit juices, the constipation will be overcome and you will be surprised with the good results you will have without the use of any laxative whatever.

Dr. Geo. E. Baxter, Chicago: The trouble which usually comes from starvation is because of the practitioner misinterpreting the stools. The stools which Dr. Brennemann particularly mentioned are looked upon ordinarily as stools of bad intestinal disturbances. This I think is where the principal trouble lies, in giving cathartics and getting a cathartic stool so-called, and then continuing the misinterpretation of what he rightly calls a starvation stool.

Dr. H. E. Root, Chicago: Instead of giving so much of the white of eggs, the yolk of the egg may be fed mixed in whatever medium you choose, accord-



ing to the age and condition of the child, either barley water, rice water, or milk, or a broth. Preferably, I have used a broth made from the veal shank retaining the marrow and boiling the bone and flesh until it is well separated and then straining it, and then use that diluted with the food and I have had good success with babies to whom I have been called who were starving to death. In some of the German hospitals they use the yolk of the egg where foods of no kind agree with the child. They would give the yolk of the egg in some vehicle such as rice or barley water, to the new-born. I have not tried it with new-born, but I have tried it with those who are three, four or five months old. For instance, I would have a thin rice water made of barley water and have it thoroughly cooked, with a bit of sugar to make it palatable to remove the starchy taste, then according to the condition of the child's stomach I used the yolk of one egg well beaten and poured into rice water when it was hot enough to give the egg a slight cooking and would increase the yolk of the egg sometimes to two to one pint and feeding this every two to three hours, according to the child's need.

Dr. Brennemann, closing discussion: Where there are two or three pediatricians gathered together, there you will find a scrap. We always expect to disagree about something. I told Dr. Grulee the other evening approximately what I was going to say and he said "Good!" I went on until I got to that last place and then he said, "There we differ." I was very much surprised about that because some one told me that Dr. Grulee did not feed these other things with a spoon until the end of the first year, and I said I was sure that they misunderstood him. I do not know of any other pediatrician except Dr. Grulee who keeps babies on the bottle alone until they are a year old, either in this country or in foreign countries. I differ with him just as he differs with me, in his opinion here. I personally have seen the light and I know that it is a good thing, after the sixth or seventh month, in babies that do not do well, to give them food from a spoon and then they get fat. That is one of the few things one can promise people.

Dr. Grulee admitted that sometimes it is difficult to get them to take the spoon. It is not difficult to get a baby to take spoon food if you begin at the psychological period, which is about the sixth month, or perhaps the fifth. Let the baby go until it is a year or thirteen months old and you will have a hard time frequently to get that baby to eat. I recall a case where the mother's milk was disappearing. She went to California and would not give the baby anything else until she came back. When she came back the baby was thirteen months old. The mother had very little breast milk. The baby had never had the bottle, it would not take a spoon and I spent an hour myself in trying to feed that baby with a spoon. That baby lost three pounds in the process.

Broth and a number of those things are all right for a short period of time. I think that one of the mistakes that most of us make is that we do not

appreciate what the food value of these different things is. It takes six or seven ounces of broth or barley water to have as much nourishment as one ounce of milk, and the baby is going to starve who is getting those things. Then there are said to be lots of babies "who cannot 'stand' milk." Personally, I have never seen such an one. I have seen many where it was decided that this was a baby who could not stand milk, but if you fix the milk up in a certain way you can get the baby to take it. The point I want to make is, when in doubt, do not starve the baby, but feed it and do not starve the baby under any circumstances more than twenty-four hours.

---

## EFFICIENCY IN MEDICAL PRACTICE.\*

CECIL M. JACK, M. D.,

DECATUR, ILL.

Dr. Edward Beardsley of Philadelphia has discussed this same subject in a recent paper. He treats it as would an efficiency expert called in to treat the affairs of a sickly commercial enterprise. He points out the vulnerable spots in the physician and in his methods of work, and suggests ways for their correction. I am going to grant the three points that he emphasizes in his paper: that the physician takes a careful history of the patient on his first visit; that he makes a careful physical examination with the clothing of the chest entirely removed, and that he makes a routine urine examination.

My problem will be to show how this can be done in an efficient manner, approaching my subject with this question: Are we, as physicians, getting out of our work all the good there is in it for the amount of effort spent? I am not speaking for the city specialist who has the hospital at his disposal where his patient can be sent, the laboratory work done by experts, the history taken by the interne, and the diagnosis made with these reports at hand. But I am speaking for the physician in the smaller towns and the towns of this size where the patient must be examined, the case diagnosed, the treatment started all at the first consultation. This should be done with the least possible delay to the patient, and the examination made as thorough as possible. Only in exceptional cases should it be necessary to send the patient out of your office for further consultation. To do this an efficient plan of one's work

---

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 18, 1916.

is necessary, and I am now giving more or less in detail the plan which we consider good. I say "we" because the physician who wishes to reach the goal of smaller general practice, larger office and hospital practice, consultations both in and out of town, and time for recreation and study, must have a partner. "Partnership in Medical Practice" could be a paper in itself.

Six years ago we built our own buildings to carry out our ideas. This building has been visited by many physicians, and is an expression of what we had wished for many years. Some changes have already been necessary, as our architect was not especially trained to make plans for such a building.

In a large cheery waiting room on the ground floor is our receiving secretary, who is also a bureau of general information. She attends to the patients' wants and is keeper of the histories. History taking is the basis of the scientific work of the general practitioner. From the beginning of the practice, or even earlier, the student should keep records of the cases seen or treated. In reading the medical literature of the great masters, such as Osler, or McKenzie, one can not help but see that they have been inveterate "note takers" even in their student days. To have at hand after ten, fifteen, or twenty-five years the history of every case of diabetes, tabes, typhoid, pernicious anemia, or even every pneumonia would give the physician a wealth of material from which numerous papers or discussions could be prepared, and the collective analysis of which would be of the greatest benefit to medical literature.

The patient is then received into the consulting room, and the history taken on a card. We use one of uniform size, 4x6 inches. This history we deem best taken by ourselves, not by assistants. Our experience with medical assistants has not been good. The young graduate out of college knows very little about the practice of medicine and none too much about the work for which you want him, unless especially trained. You keep him a year before he becomes useful to you, then he is gone, and you must start over. So with a graduate nurse as a nucleus, we have added girls whom we have trained for particular duties, and have found them more satisfactory.

When taking a history there runs through our mind what examinations should be made, which

we write down on the left side of the first examination card. The patient is then sent to the laboratory, and the young lady whom we call our technician, collects the different secretions, takes the blood, blood pressure, etc. We have deemed it advisable to have our own clinical and Roentgen-ray laboratory. When we found that a girl technician could be taught to make blood stains far prettier than we ourselves, why should we take this time, more or less valuable, and incidentally have carbol-fuchsin all over our hands and the laboratory walls? When we found that she could count blood with a Thoma-Metz blood counter in one-third the time we could the old way, and just as accurately, we proceeded further and let her check up on Wassermann tests, finally turning that work over to her under our own supervision. She has been taught to draw the blood from the heart of the anesthetized guinea pig without killing the animal. She does not read the results of these tests, but shows them to one of us, with their proper number. We form our own opinion, and enter them on the proper history.

In Roentgen-ray work, thanks to the simplification of this machine and the ease with which Roentgenograms can be taken, the technician can do this time consuming work. In all laboratory work there must be one warning: don't expect the technician to know more about any particular test than you know yourself. She may make a better Roentgenogram or prettier blood stain, as she can give it more time, but she must not diagnose a tuberculous ankle or pernicious anemia.

In the Roentgen-ray laboratory we have followed this method: a fixed position for each part of the body, and each Roentgenogram taken in that position irrespective of the condition sought. You are able, then, to interpret any plate so taken. Tank development has greatly increased the efficiency of this work.

The Roentgenoscopic work the physician should do himself. However, here it is a great help to have the patient prepared and the machine going, so that very little time is taken in making this examination. Amber glasses worn ten minutes before entering the Roentgenoscopic room facilitates in seeing the Roentgenoscopic shadow without the preliminary waiting in the dark room. The Coolidge tube has greatly increased the efficiency of the Roentgenoscope.



Other laboratory aids, as urine and sputum examinations, tuberculin tests, polygraphic tracings in heart disease, spinal puncture, and the examination of the spinal fluid are made as indicated. The actual taking of a polygraphic tracing we do ourselves, but the setting up of the instrument and preparation of the patient are done by the girl assistant. Also in making a spinal puncture we insert the needle and draw off the fluid, but the girl technician takes care of the fluid, makes the cell count, tests for an increase of globulin, and makes a Wassermann test. These different reports are made on special cards of different colors so that they can be easily distinguished.

While these time-consuming tests are being made, and the great objection to their use is that they are time consuming, we are seeing another patient, taking another history, or perhaps making a physical examination on a patient already prepared. The physical examination is made in a small examination room where different diagnostic aids are easily accessible, such as stethoscope, electrically lighted instruments for examining the body cavities, etc.

Now with the history, the laboratory report, and the physical examination, our diagnosis is made and entered upon the right hand side of the first examination card; not only the principal diagnosis, but the secondary diagnoses. Thus: valvular heart disease, cardiac hypertrophy, auricular fibrillation, cardiac decompensation, chronic interstitial nephritis, and hypertension are placed on this card. This having been done, the history card is returned to the receiving secretary for cross indexing and case reporting.

At a moment's notice our receiving secretary can tell us how many cases we have seen of any disease, and can very readily pick out those histories that they may be studied. For example: of the 74 cases of glycosuria recorded, 63 proved to be true diabetes mellitus, 2 diabetes insipidus, and 9 glycosuria accompanying other diseases. Of the 63 cases of the true form, 24 are known to be dead. Syphilis did not seem to be a factor. The blood pressure was not raised except when there was an accompanying nephritis. Ten cases were under 21 years of age. Both cases of diabetes insipidus gave a positive Wassermann. Of the other cases of glycosuria, it accompanied such

conditions as malignancy, pregnancy, exophthalmic goiter, etc.

Now the diagnosis made, is it surgical or medical? If surgical, we send the patient to the hospital and have the surgeon operate. If medical we treat it; it may be by advice only, or advice and medicine, or some other special treatment. If it has been a referred case, the findings and opinion are mailed back to the physician who referred the patient.

If some special treatment is to be given, as salvarsan, full preparation has been taught to the nurse; distilling of water, sterilization of glassware, mixing of the drug: the only part we play is in the inserting of the intravenous needle.

Concerning Roentgen-ray treatments, the patient is seen each visit by one of us, prepared by the nurse, and we judge the amount of ray to be given. To increase the efficiency of this work, two days in the week have been set aside for these treatments. Likewise, one day for the Wassermann test.

One month in the year the physician should leave town for travel or study. Physicians as a rule do not take enough time off. It is not necessary to take a post-graduate course every year. However, if there is any particular thing you want, try and get it first hand. You then not only get the proper technic, but also the enthusiasm of some great teacher. Six weeks at a hospital in Boston would benefit any physician, but a course with Cabot would be invaluable. Much benefit can be derived from visiting medical friends in other cities, picking up a point here and there, and if of use, applying it at home.

In perfecting the Wassermann technique one of us spent three weeks in a Wassermann laboratory studying the theory and practical working of this important test. Likewise one of us spent two months with Dr. James McKenzie to master the newer interpretation of heart disease. It took many visits to Roentgen-ray laboratories before this part of the work was a real aid.

Under these conditions our work has become our hobby, and yet we have time to read medical journals, assist in public welfare work, keep out of politics, read a few good books, and even play a little golf.

451 W. Macon St.

## EXPERIMENTAL REPRODUCTION OF ACCESSORY SINUS SUPPURATION.\*

M. F. ARBUCKLE, M. D.,

EAST ST. LOUIS, ILL.

I present herewith a scheme for experimental reproduction of suppuration of the nasal accessory sinuses, which we use in our department at Washington University Medical School. This scheme was devised some time ago, and presented to the American Laryngological Association, by Doctor Greenfield Sluder, in May, 1914.

The anatomical material consists of human skulls decalcified and sectioned so as to afford access to the sinuses from above, to place the pus in a desired position, for the examination of the sinuses and their outlets. Every form of sinus suppuration can be demonstrated. I have had the pleasure of teaching this part of the subject to the students for the last three years, and as a scheme for holding their interest it is far superior to anything we have ever tried.

The specimens have been hardened in formaldehyde and stained in ammoniacal solution of carmine, and subsequently preserved in five per cent, aqueous solution of benzoate of soda, which keeps the tissues at about the same consistency, if the specimens have been thoroughly hardened before being put in this solution, and they can be handled without detriment to the hands.

The "pus" is a subcarbonate or hydroxide of bismuth held in suspension by the presence of mannite, an hexatomic alcohol. Nitrate of bismuth is dissolved in dilute nitric acid and about two per cent. mannite added. Sodium carbonate or hydroxide solution is added to neutralization. The precipitate is washed or allowed to settle, or is centrifuged to the thickness of buttermilk. It is then stained by the addition of a slight amount of aniline yellow and methylene-blue. This preparation may be diluted with distilled water to reproduce a seropurulent discharge, or may be centrifuged to reproduce a thicker purulent discharge. A drop of it is then introduced into a sinus which has been dissected open from its cranial aspect. The sinus may be filled to overflowing, or a drop placed in the outlet of the sinus. The specimen is then observed as though it were the head of a patient in the usual position for observation, with the head re-

flector and other paraphernalia. This artificial pus may also be used in a living subject, if desired, by using a small syringe.

The subject of light used in this work is of some interest, and to serve my purposes I have brought with me a light, which I think is the best. Since the beginning of our specialty the sun has been used for making observation and its rays give the best light; however, it is not always available, hence substitutes have been gotten up. Formerly the sun's rays were allowed to fall in a pencil through a small aperture in a window onto a mirror, which reflected the rays wherever desired, but this was impractical. Then Lenox-Browne brought out the calcium light, which is a fine white light, but on account of the fact that tanks are required to contain the gases and a great deal of trouble and paraphernalia are necessary, it also has fallen into disuse.

The gas light with the "mantle" has sufficient green in it to blend with the color of a thin film of muco-pus enough to entirely mask it.

The "Liliput arc" was introduced by Ernst Leitz a few years ago, and, probably, is the best light in the market. It is always ready if the electric light current is in service. Carbons which have a zinc core, or which have been washed in a solution of zinc, give a pure white light, while the carbons which have not been thus treated give a reddish or yellowish tinged light. The principal drawback to the Liliput arc is the replenishment of the carbons, but this is negligible.

There have been many electric bulbs devised, a number of which I have tried, but the only one I have found which gives any sort of service worthy of the name is the nitrogen lamp, recently put on the market, but which is still not equal to the Liliput arc.

---

## X-RAY, VALUE OF IN LOCALIZATION OF FOREIGN BODIES IN EYE-BALL; WITH DEMONSTRATION AND STEREOPTICON SLIDES.\*

HAL P. WELLS, M. D.,

CHICAGO.

The proper method in the early handling of cases of suspected foreign body in the orbital cavity is now, I believe, fairly well defined,

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



though not yet as generally appreciated and followed as the importance of the subject requires. Positive or negative diagnoses, for instance, by means of the electro-magnet, the ophthalmoscope, the sideroscope or all these means combined in cases of suspected iron or steel in the orbit, are, in the case of a positive diagnosis, insufficient, and as a negation they are incompetent and unreliable.

It will be my purpose in this paper to bring to your attention two prime propositions concerning foreign body cases in ophthalmic surgery; first, that given a proper and well worked out technique, the x-ray is not only indispensable in these cases, but in the vast majority infallible; and second, that by an accurate mathematic localization by means of the x-ray of any foreign substances found, the subsequent surgical handling of the case is not only far more satisfactory to the surgeon, but in many instances more fortunate in the final outcome for the patient than is possible by any other known procedure.

Please note that by an accurate localization is not meant an approximate locating of the foreign body or bodies by means of two exposures taken at right angles one to the other; and neither does the phrase comprehend the stereo-Roentgenogram, which latter has in the past few years come into considerable prominence through deluxe editions of stereo plates covering a wide field of medical and surgical subjects. And to dispose of the question of the stereoscope as far as this particular field of work is concerned I will offer it as my opinion that in cases of foreign bodies in the orbital cavity the stereo is but little better than a single lateral view. It is true that the impression given the uninitiated observer by a pair of well focused stereo plates is more thrilling from a pictorial point of view, but as to their giving any definite information as to the relation of the foreign body to the various important structures contained within the orbital cavity, or even whether the foreign body lies within or outside the eye-ball, the stereogram is decidedly not to be depended upon, either as a basis of prognosis or as a guide to the surgeon in the subsequent handling of the case in the event removal of the foreign substance is decided upon.

The reason for this fact as regards the stereogram being that while in this sort of a picture we get a good idea of the position of the foreign body in its relation to the bony enclosure of the

orbital cavity we do not see the soft structures contained therein and hence, as above stated, no definite information is afforded as to the relation of the foreign body to those important structures.

The very acute necessity for an accurate localization of all foreign bodies that get into the eye, but particularly in those commonest of all cases in which iron or steel is concerned, is well and tersely stated by Tivnen of Chicago in "Ophthalmology" Vol. II, 1914, when he says, "A foreign body retained in the eye, incapable of being removed, spells disaster to the eye." Von Hippel found that while iron and steel were not infrequently more or less tolerated in the lens and anterior chamber, in the vitreous degenerative changes always took place, and the size of the body within certain limits seemed to have no appreciable effect on the ultimate results. These observations of Von Hippel were confirmed by a large number of experiments in addition to clinical observations. The reports and opinions of all others who have had the opportunity to observe large numbers of this class of cases, at least so far as I am aware, coincide with this view as to the general fatality following foreign bodies and particularly metallic particles when left in the eye.

In view of this statement, two conclusions are to be drawn: first, that in every case of foreign body known to have lodged in the orbital cavity we must determine exactly where the body lies with respect to the contents of the cavity; and second, after determining the exact location, remove the offending particle with the least disturbance to anatomic integrity and relations of the important structures composing the globe. I am aware that there may be instances occasionally of foreign bodies in the eye in certain positions which do not in good judgment call for removal, but it is also my understanding that such instances are rare; they belong to the consideration of the ophthalmologist; but even in such cases an accurate localization would be first required to determine the hazards involved and to enable the surgeon to competently decide the course of his procedure. It will be understood that what are contemplated in the above rather conclusive pronouncements are cases in which the foreign body is lodged in or within the eye-ball.

The ophthalmo-surgical question as to the most successful and satisfactory method of removing foreign bodies deeply imbedded in the ball, is out

of my province in this paper. But I have had numerous occasions for giving this subject some consideration at the operating table, where in the end my own work must usually be put to the test of its efficiency, and I will ask your indulgence, therefore, a little later in the course of my demonstration to show a device which I have suggested to enable the surgeon to transfer to the surface of the eyeball the accurate information and measurements which are given him by the Roentgenologist. As far as I know, nothing has as yet been provided that satisfactorily covers this requirement. The instrument will be shown on the screen.

One of the most important and interesting questions that may be answered in a paper purposing to cover at least the high spots of the subject of foreign bodies in the eye is the following: What is the relative difficulty of showing the various substances that may be gotten into the eye, and are there any of the substances in common use in the arts and industries which may be gotten into the eyes of workmen and which cannot be unmistakably demonstrated as to presence or absence by means of the x-ray?

It might be offensive to some of my auditors for me to seem to disparage their general knowledge of this subject by going into any sort of a discussion as to whether or not iron, steel, copper, brass, lead, and the others of the radiographically opaque group of metals or their alloys can unmistakably and invariably be demonstrated when present in or absent from the orbital cavity, so well recognized amongst Roentgenologists has the affirmative of this fact become, and to save time I will assume that all present accept the fact that all the metals above named and many others can be unmistakably disposed of Roentgenologically with reference to the eye. And yet I happen to know that there are a few even amongst ophthalmologists who look with some skepticism on this statement, and who are deterred from referring their foreign body cases to the Roentgenologist, excepting as the last rather than the first resort, for the bona fide reason that they believe results in these cases in the hands of the x-ray man are at best problematical.

In speaking of the metals very commonly used in the manufacturing industries you probably noticed that I omitted one of the commonest, viz., aluminum. I did so advisedly, and for the reason that the very emphatic remarks made con-

cerning all the other mentioned metals do not apply with the same force to aluminum. And yet, in view of the experiments I have made, some of which I will show you on the screen, I do not feel called upon to concede respecting this metal, more than that very small particles of aluminum deeply lodged in the eyeball may even with a good technique escape detection. Suffice it to say for the present purposes that in none of my experiments made under conditions as closely approximating those encountered in the living subject as it was possible for me to arrange, did I fail to readily show even the smallest particles of this metal artificially lodged in the various structures and media of pig's eyes, which were used in all my experiments.

A rather large remaining group of substances, including amongst others, stone, slate, crockery, china, porcelain, anthracite and soft coal, splinters of wood, and lastly but not least in importance the various kinds of glass, will have to be considered summarily with the brief statement that all of them with the exception of small splinters of wood can be shown, and positive or negative x-ray findings respecting these can be depended upon with but slight reservations as to two or three of the groups. However, in selecting glass from the group of the non-metallic substances as the one to form the basis of the experiments I will show you, I have not only chosen the substance that probably presents the greatest difficulty in its radiographic detection, excepting wood, but at the same time the one that has aroused more interest and discussion because of its more common occurrence than all the others combined.

Glass and aluminum will, therefore, be the only substances considered in the slides covering the experimental work which I have done and which will be shown you on the screen.

The procedure uniformly adopted in my own work in all cases of suspected foreign body in the eye is as follows. Three standardized positions are used in which the plate, head, and tube are placed in certain definite relations to each other. These three positions are used successively in every case before a negative report is made, but in the event that a foreign body is found in the first or second plate no further exposures are made for merely determining the presence of the foreign substance, and the accurate localization is then at once proceeded with. Rather than to



describe here my three standardized positions for making the exposures I will show them in slides and then briefly describe them as the pictures are placed before you. But I wish to call your special attention in this connection to a few points respecting the making of the first exposures, which few points are of too great importance to hazard the chance of overlooking them in a running description without notes:

First, the desideratum in the matter of position during exposure is to secure a plate in which the field of the orbital cavity, or at least that part of the cavity which is occupied by the eyeball, is as little obscured as possible by intervening and superimposed bony structures of the nasal and opposite orbital regions. And, secondly, to secure in several plates a composite view of the orbital cavity under examination which, taking the plates together, will permit of a satisfactory survey of the entire field occupied by the eyeball without confusing obstructions.

Also of great importance is the repetition of one or more exposures in a given position in which an inconclusive image of a suspected foreign body may be gotten. It is only by such repetition and duplication that doubts can be removed as to the significance of many shadows that are seen in the plates. An image of a foreign body can always be reproduced; an artifact never, that is, in the same place and of the same character.

I wish to call your attention especially to the beautifully clear section of the orbital walls that is accomplished in one of my positions with practically the entire elimination from the field of the opposite orbit, so as to give the impression that but half of a skull has been used in making the picture.

The importance of a clear and unobstructed radiographic view of the entire field of the globe will be better appreciated when by means of the lantern slides I will show you that an image of a foreign body which may appear quite clearly in one view may also be much obscured or quite invisible in another taken with the relative positions of tube, head and plate changed, and the point that I will hope to make clear is, that no case of suspected foreign body in the eye is thoroughly handled until all of the three standard exposures, which I will demonstrate, have been made, before a negative report is submitted. The

antero-posterior position is practically never used in my work.

During the exposures in any of the positions used the patient's vision is directed and fixed by having him look at a bright spot placed in front of him at a convenient distance, strict caution being given the subject to keep the sight intently fixed during the moment of exposure, which latter never exceeds more than from a half to three-quarters of a second.

It is also of importance to even stop the patient's breathing during the moment of exposure. For in the case of very small particles of iron or steel or any of the other absolutely opaque metals the image of the foreign body may be so blurred by the slight movements of respiration or by slightly shifting the axis of vision as to lead to a negative conclusion in the presence of a foreign body. This, of course, could not occur with a particle of large size unless the accidental movement at the moment of exposure were considerable, but with a piece of metal or other substance measuring a millimeter or less it has frequently occurred within my experience that the image of the particle has been blurred to the point of uncertainty or caused to entirely disappear. This experience leads to the conclusion, then, that given a patient who is restless and difficult to control one must be extraordinarily careful in arriving at a negative conclusion in the face of a history indicating the probable presence of a foreign body.

The only method of accurate localization which I will mention is the one now used in my own laboratory to the exclusion of any other. It is the Snook modification of the original Sweet method, which is based on the mathematical principle of triangulation, with a fixed object in a determined position with respect to the center of the pupil as the basis of calculation.

A didactic description of this method without the apparatus itself or a picture of it before you would be not only tiresome but quite lost to all who have not previously acquainted themselves with the apparatus and method. I will, therefore, defer my very brief description of this method until the slides are thrown upon the screen.

Now, to dispose of the question of glass, which, as I have stated above, is generally considered quite the most important interrogation point in the field of ophthalmo-Roentgenology. Glass is

divisible from our present standpoint into two main classes. First, the varieties of glass which contain lead, barium, zinc, antimony or some other opaque metallic ingredient; and secondly, the varieties which are free from such metallic ingredients and which contain only silica, lime and soda in varying proportions. If it were not for the latter group glass would present no difficulty to the Roentgenologist, but inasmuch as a great deal of the glass which is commonly encountered in our everyday life belongs to this so-called crown glass group which is free from any metallic ingredient in any appreciable proportion there are difficulties which must be reckoned with.

Most of the colored glasses contain some metallic oxide such as ferrous oxide in pale green glass, cobalt in purple and blue glasses, nickel with potash in violet tinted glass and copper oxide in certain hues of blue, green and red glass, but the metallic ingredient is usually not sufficient to materially aid the Roentgenologist when glasses of these sorts are to be dealt with.

Ferrous oxide is the ingredient which causes the greenish tint of common sheet glass used in the vast majority of window openings, but it is in such relatively slight proportion as to the other ingredients of the glass as not to assist materially in casting an x-ray shadow, and it may be generally stated that in dealing with particles of this sort of glass in an eye, particularly if the particle is within the eyeball, the technique of the x-ray operator must be painstaking and definite if success in making reliable diagnoses is to be attained, and it may be just as certainly stated also that with merely an average technique and degree of care small particles of non-metallic glass are far more liable to be overlooked than discovered. The glass used in spectacles is, as a rule, non-metallic and presents the maximum difficulties in its detection.

The slides shown will include a comparison of the images cast by small particles of both lead, glass and non-metallic glass, together with one or two slides which do not show the glass at all and which were made under apparently identical conditions with those in which the glass clearly shows. But for fear of unnecessarily mystifying you by this latter statement I will remind you that such discrepant results are merely matters of relative position of the plate, head and the source of light, or the tube.

Fully 95 per cent. of all cases that have come to me for localization or on account of the suspected presence of a foreign body in the eye have been cases in which iron or steel have been concerned, and coming next in frequency are the other metals commonly used in the arts and industries such as copper, lead, zinc, and brass; and next come the cases in which glass is suspected to have lodged in the eye.

As a comment on what I believe to be the rarity of cases in which glass actually gets into the eyeball I have to tell you that out of over three hundred cases in which I have made positive diagnosis and localizations of foreign bodies in the orbital cavity I have had not one in which glass has been actually found in the eyeball. Whether or not the cause of this is that I may have failed to discover the glass when present I can, of course, not say; but I can state that of the several instances in which I have reported negatively as to the presence of glass there have been none in which my finding was subsequently proven to have been inaccurate. Of course, such proving up in cases in which glass is suspected can only come about through the removal of the eye and a subsequent dissection.

When I come across an instance in which after a thorough x-ray examination I report negatively as to the presence of glass and am subsequently proven by removal of the eye to have been wrong I shall then conclude that x-ray findings in these cases are unreliable, at least so far as my own work is concerned, and that the experiments which I have performed and in which I have demonstrated the presence of non-metallic glasses artificially imbedded in pig's eyes are not dependable as criteria of what may be accomplished in the living subject. Therefore, up to date, as far as my own experience is concerned, the evidence as to all kinds of glass, both experimentally and in the live subject, is in favor of my tentative conclusion as presented in this paper, namely, that the x-ray can be expected to show even small particles of glass in the orbit and in the eyeball, providing the work of the Roentgenologist is thorough and a proper technique is employed.

Another important point which I am moved to touch upon on account of certain references which I have seen in the literature concerns the question as to where is the vanishing point as to the size of foreign bodies which can be dependably demonstrated by the x-ray. And I have in mind



particularly one case reported by Dr. Allport of Chicago, in which he stated that in an eye containing six pieces of iron or steel the Roentgenologist had reported to him but one. The article did not go on to state whether or not the particles of metal which were not demonstrated by the ray were so small as to probably have escaped detection because of their diminutive size, and the reader is left quite at a loss to account for such erratic behavior on the part of the x-ray as seems to have occurred in this case. I am inclined to explain the difficulty in this particular instance in the light of some of the experiences which I have had myself and some of which I will show you on the screen, the explanation of which is that in certain positions certain particles may not be detectable, whereas the same particle in another position may show up prominently.

And my net conclusion respecting the size, for instance, of particles of iron or steel or the other opaque metals which may be shown radiographically is that if there is a vanishing point beyond which the x-ray is not dependable that point will be found outside of and not within the eyeball. And by that I mean to say that any particle of a foreign body, with the possible exception of very minute pieces of non-metallic glass, which has a sufficient size and weight to penetrate the resistance of the anterior segment of the eyeball would be of sufficient size to be readily shown by the x-ray.

And yet I believe one of the members from Chicago will present a specimen or at least tell about a case during his discussion of my paper in which he believes that he has found a vanishing point in an extremely small particle of metal which he removed from an eye that had been examined by me and in which I repeatedly returned a negative report. This particle of metal, which the doctor exhibited later, was so small that a breath could readily blow it away and so small that it might almost have been attracted to the point of his magnet from the surrounding air. And so small was it indeed that if it were really in the eye which I examined I feel ready to admit that it might easily have escaped detection. But the difficult thing to reconcile in this particular instance is that as a physical proposition I cannot conceive of a piece of metal so small striking the eye with sufficient force to penetrate the cornea and pass through the in-

tervening structures into the vitreous chamber. This is an interesting case and I know you will be glad to hear about it.

The conditions under which the experimental plates were made, which will be shown on the screen, were as follows:

Pig's eyes were used in the fresh state wrapped in absorbent cotton and placed in the orbital cavity of a skull. The foreign body being experimented with was imbedded in various parts of the globe, including the lens, the vitreous and the scleral wall. This arrangement of conditions was as close an approximation to those obtaining in the live subject as I was able to devise and I believe correspond sufficiently closely to the conditions encountered in actual work with the living subject so that the results of my experiments may be depended upon.

As the slides are shown the particular position in which the head was placed will be mentioned, together with any other points of technique which I think will be of interest to mention, and I will now pass on to that part of my demonstration which could be made rather lengthy but which I am pleased to assure you will be abbreviated to the point of barely bringing out the very essential thoughts which I wish to leave with you.

#### DISCUSSION ON SYMPOSIUM.

Dr. Clement wished to emphasize that this work of the accurate localization of the steel in the vitreous was highly specialized work. It is work requiring an extensive equipment and rather elaborate and carefully worked out technique, and should be done by a man having a maximum amount of experience. He described a case in which the staff radiographer of a hospital took several pictures and failed to locate any foreign body. Three months later the patient came to Dr. Clement, who had Dr. Wells make a picture of his eye and located a foreign body which they removed. In another case a piece of steel, not discovered by a radiographer was allowed to remain in the eye for almost a year. As in the first case, Dr. Wells took a picture of it and located it within the globe, from where it was successfully removed, although it did considerable damage in the meantime.

He thought the radiographer has passed the surgeon a little bit in locating these foreign bodies, and now that they have done that work so accurately it is up to the surgeon to find ways of relocating it on the eye and extracting it. It seems to me that it demands new instruments and new technique before it can be removed. He then exhibited an instrument which he had modified from Dr. Wells' suggestion.

Dr. Snyderaker noted the marked difference in results attained by Haab and the Americans in the use

of magnets for extracting foreign bodies from the eye. Haab does not believe in taking x-ray pictures. Said that if you know how to manipulate your magnet, and you have a recent injury, it is not necessary. He gets them out without it.

The American idea is that it is absolutely necessary. Now, then, how can we reconcile that difference? How is it that we have such entirely different results from the Haab school? In the first place, he thinks Haab uses a much more powerful magnet than any of us have access to. The second reason is that over there, for some reason or other, they get their cases much more recently.

Dr. Andrews, in emphasizing the value of localization, called attention to the hand magnet with the sharp point and the advantages of that over the large magnet with the blunt point. The sharp point can be introduced in a small incision, the current turned on, the foreign body removed with much less trauma inside of the eye, ordinarily, than with the large magnet.

Dr. Gradle made a preliminary report of a new magnet consisting of a coil of wire approximately forty-five or fifty millimeters wide. The current is sent through these, and the magnetic core consists of any steel instrument that you wish to introduce. The strength of this magnet is sufficient to attract a fair-sized particle. He had not made accurate measurements along Dr. Wells' line, but can take half a grain to a grain weight of steel and drag it to a distance of about fifty millimeters with a medium size core. The advantage of this simply is that we have no weight to work with beyond the very small steel core, as the one pole of the magnet.

Dr. Ostrum noted the difficulty in securing x-ray apparatus outside of the mart centers and in the hands of the expert. He recommended for accurate practical purposes the Sloan-Dixon-Wickes apparatus. We can use it wherever we can get a machine, even though it does not do this beautiful work on the five or ten-second exposure. In thirty seconds it will get a pretty accurate exposure. He believes that the magnet operation is overworked. That the magnet is not very desirable in removing objects that have jagged edges; that it will do harm, while the forceps can be used with perfect safety.

Dr. Tydings described a case of a metallic body that passed through the eye and lodged behind the globe. If it were in the globe, there would be no choice but to try to get it out, but being behind the globe, he left it there, and expects to remove the capsule very soon.

Dr. Tivnen, the chairman, complimented Dr. Wells for his valuable paper and his original line of investigation, which he thought should be encouraged in every way, especially by sending him cases for examination.

Dr. Wells appreciated the compliments and kind words of Dr. Tivnen, which reminded him of the old maxim, "Do anything a little better than anybody else, and though you may live in a forest the world will make a track to your door." He needs only the kind of encouragement that he is getting right along

in this work, and the magnificent results that are gotten in these cases. That is compound interest on the invested labor.

As to the question of long exposures being compatible with favorable results—nothing to that. In one slide a body of good size was obliterated entirely by such motion as was possible in only the fraction of a second. What about five or ten or thirty seconds? That ought to settle that question.

As to Haab's position about the lack of necessity of using the x-ray, it seems to me that that is answerable also by the fact that there are bodies that are not magnetizable at all. Surely your magnet is going to get you no results there. And if there are some cases in which you cannot rely on the magnet, why not settle the question by using the x-ray in all?

As to the question of bodies that pass through, surely we have lots of those. In those cases, as well as all others, you want your accurate localization to know where it is.

Dr. Woodruff: The proper method of dealing with a foreign body that is localized behind the eye, of course, is to let it absolutely alone. There is no possible way of removing that and it is harmless in that situation, unless, of course, it is an infected foreign body.

Dr. Ostrum refers to the use of the forceps in removing the large, jagged pieces of steel, thereby doing less damage than with the magnet. That may be true in certain pieces of steel. Of course, small pieces could not be removed with the forceps, in any event.

You get the idea from Dr. Wells that localization is easy. It is evidently a very easy proposition to localize a piece of steel when you have the apparatus and know how to do it, as he certainly does. Now, the removal is not so easy. Dr. Wells, I am afraid, is inclined to have the idea that it is just as easy to remove it as it is to localize it, but it is far more difficult.

Somebody referred to the fact that we get these cases so late and that in the Haab clinic they get these cases early. I think that is due to the optimism of the general practitioner. He always looks on the bright side of everything and he does not think there is anything in the eye. That is where the trouble comes in.

The small magnet, with a very small point, may be of value in certain cases. The idea, of course, is that if you do this work you must have all kinds of equipment.

## PNEUMOCOCCAL CORNEAL ULCERS AND THEIR TREATMENT.\*

W. H. PECK, M. D.,

CHICAGO.

The consideration of corneal ulcers is of importance because the integrity of the eyesight is

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.



absolutely dependent upon clear corneal tissue. Corneal ulcers always impair its transparency to a greater or less degree. Centrally located ulcers frequently result disastrously to the vision and call for the most prompt and intelligent management. Those situated peripherally may or may not prove serious, according to whether they progress toward the center or burrow deeply with the possibility of perforating the eyeball and causing infection of the internal structures. In some instances the resulting opacities are deplorable from a cosmetic standpoint.

Owing to the limited time at our disposal I shall confine this paper to treatment of pneumococcal ulcers of the cornea, as it would be impossible to touch on all kinds of corneal ulcers, and it is the one which shows recent improvement in treatment. The prophylactic management of corneal lesions is equally important with their treatment after infection is established.

Dr. Ramsey gives what I consider very valuable suggestions in regard to preventive treatment:

It must never be forgotten that the pneumococcus, which is the cause of the ulcer, is, when it attacks the eye, as destructive to sight as it is dangerous to life when it invades the lung. Whenever it has declared itself, therefore, expert assistance becomes at once necessary. Prophylaxis is, however, a different matter, and lies almost entirely in the hands of the general practitioner who, if well informed as to the etiology of the disease, will fully realize his own special responsibility in the matter, and recognize the importance of the following recommendations.

a. Suppuration of the tear passages is a frequent source of infection of an abraded cornea; therefore, the general practitioner should advise immediate extirpation of the lachrymal sac in all patients suffering from dacryocystitis if their occupation exposes them frequently to risk of injury to the eye.

b. The chief sufferers from serpiginous ulcer belong to the laboring classes, who are very prone to neglect slight eye injuries, therefore the general practitioner should do all in his power to warn people of this class of the dangers arising from neglect, and try to teach them to seek medical advice with as little delay as possible. It is most important that all workmen be made to understand the serious nature of pneumococcal ulcer, and much good in that direction might be accomplished if, in the ambulance lectures delivered to the employees of public works, the lecturer gave some general instructions regarding the care of the eyes, and warned the men that no injury to the eye is so trivial that it can be neglected with impunity.

c. After infection has occurred the ulcer may spread with great rapidity, and all chance of saving sight be lost within a few days. Whenever, therefore,

the general practitioner is consulted by a patient suffering from serpiginous ulcer he should restrict himself to giving first aid, and then with as little delay as possible send the patient to a specialist. First aid in such a case consists in washing out the conjunctival sac with a warm solution of boric acid, instilling a few drops of a 2 per cent. solution of cocaine, examining the eye carefully by focal illumination, removing any foreign body from beneath the eyelids or from the surface of the cornea, applying an ointment of 1 per cent atropine, 2 per cent. cocaine and 3 per cent. iodoform, and covering the eye with a carefully adjusted compress and bandage. The patient ought then to be sent to a specialist, for it cannot be repeated too often, or urged too strongly that the sooner the eye is treated by an expert the more satisfactory will be the result. When left to themselves, the patients rarely seek the advice of an ophthalmic surgeon until days or possibly weeks after the onset of the disease, and by that time sight may be irreparably damaged. It is true that many of these patients say that in the interval they have been using a lotion (which may or may not have been prescribed by a doctor), but that cannot in any way be regarded as efficient treatment of such a dangerous disease as serpiginous ulcer.

Ramsay<sup>1</sup> and Hansell<sup>2</sup>:

What is wanted is a drug which is at one and the same time poisonous for the pneumococcus and non-poisonous for the tissues of the body, or, as Wright says, it must be mono-tropic for the protoplasm of the pneumococcus. Professor Morgenroth has recently brought forward such a drug in ethyl-hydrocuprein, and, as Wright points out, his experiments have furnished the first demonstration of the possibility of preventing and curing a bacterial—as distinguished from a protozoal or spirochaetal infection—by the administration of a drug. Morgenroth's researches were undertaken to elucidate the pharmacotherapy of pneumonia. He experimented with derivatives of quinine, and found that ethylhydrocuprein and its salts exerted a bactericidal influence specifically upon the pneumococcus, and had only a very slight effect upon other micro-organisms. Early in the course of his investigations he expressed the opinion that the drug ought to prove of great value in the treatment of serpiginous ulcer of the cornea, and encouraged his ophthalmic colleagues to put it to a clinical test. A Leber, at the meeting of the Heidelberg Ophthalmological Congress of 1913, was the first to record successful results, and since his communication Goldschmidt, Schur, Darier and others have reported favorably on the drug, which from all accounts now bids fair to dominate the therapy of pneumo-coccal ulcer of the cornea.

Morgenroth and Levy<sup>3</sup> were the first to call attention to the value of ethylhydrocuprein in the treatment of pneumococcus affections. Their article was followed by a second written by Mor-

1. Ophthalmic Record, September, 1915.

2. Ophthalmic Record, March, 1916.

3. Berl. klin. Wochens., 1911, bd. 34 and 44.

genroth & Kaufman<sup>4</sup>, and a third by Morgenroth & Ginsburg<sup>5</sup>. Verlesen<sup>6</sup> described the application of the remedy to the treatment of several cases of pneumonia and reported favorably. Schur<sup>7</sup> also reported observations on the action of ethylhydrocuprein in *ulcus cornea serpens* caused by the pneumococcus.

Experimental investigations in the germicidal action of optochin (ethylhydrocuprein) on pneumococci were made by Gebb<sup>8</sup>, who found that 2 per cent. killed pneumococci at once in the test tube, 1 per cent. after at least five minutes, 0.5 per cent. not at all after sixty minutes. In drop-dose experiments, even in 5 per cent. solutions, it does not inhibit the growth of xerosis bacilli and its germicidal property on staphylococci is not worth mentioning. It checks the growth of the diplobacilli of *Morax-Axenfeld*, but it is not as effective for them as for pneumococci.

Bielschowsky<sup>9</sup>: "Treatment of purulent ulcers of the cornea," says that while by the old method of treatment fourteen eyes out of thirty-six suffering from serpiginous ulcer were functionally lost, the results in twenty-three treated with optochin have been excellent, seventeen recovering with a vision of more than 1/10. Installations of a 1 per cent. solution, or subconjunctival injections of a 0.5 per cent. solution, were employed.

Kuettel<sup>10</sup>: "Treatment of *ulcus serpens*," describes the methyl-hydrocuprein treatment. After rendering the cornea anesthetic he applies a 2 per cent. solution, holding it in contact for half a minute. Then he instills a 1 per cent. solution every hour, taking care that it comes in actual contact with the ulcer. This is maintained until the ulcer is thoroughly cleansed. It may be necessary to apply the 2 per cent. solution a second time in obstinate cases. The iritis is treated with atropin. He reports seventeen cases thus treated which show clearly the good effect of the remedy, only one proving obstinate.

Goldschmidt<sup>11</sup>: "Chemotherapy of pneumococcal diseases of the eye." Optochin hydrochloricum is a preparation that meets every indication for a chemotherapeutic remedy. The pneumococcus is

particularly affected by it. The treatment must be as intensive as possible from the start, and five or six applications are necessary during the day. He prefers a 1 per cent. ointment. The eye should be cocainized before the application. From one to three days are generally necessary for the cleansing of the ulcer. In about a hundred cases he has never seen any progression or reinfection. The treatment takes longer when the ulcers are associated with deep infiltrates. Abscess of the lachrymal sac and pneumococcal conjunctivitis are also influenced well by it.

31 North State street.

#### DISCUSSION.

Dr. Clark, of Freeport, was impressed with the importance of early diagnosis and institution of proper treatment. In the removal of foreign bodies there is an especial laxness, in these days of contract practice for large manufacturing concerns. All injuries are classed under minor or major surgery and so cases of foreign body in the eyes are referred to the man who happens to have the contract for general work, regardless of his skill in eye work. Too often also are experts consulted among the fellows in the shop. Many such have at their elbow a cocaine solution of doubtful antiquity and sterility and without any preliminary regard for cleanliness, whittle down a toothpick to a convenient point and begin their well intentioned but oftentimes disastrous attacks upon one of the finest pieces of work that the Creator has placed in man—the eye.

The Doctor described a case of infection of the cornea resulting in hypopion, which eventually required an evisceration.

This was a pneumococcus infection that he believed was directly traceable to the throat infection following a tonsillitis. We must be alive, therefore, to the possibility of focal infection about the head producing infection in ocular situations.

Personally he had but one experience with ethylhydrocuprein in pneumococcal infection, and that was not satisfactory.

Dr. Blue took issue with Dr. Peck as to the first aid that should be given in corneal ulcers. He believed that the first aid should consist only in the placing on of a bandage for the reason that it is very important, in the treatment of the ulcer, to determine its etiology; whether it is due to pneumococcal or other infection. When it comes to the specialist, this knowledge is gained by taking a smear from the ulcer and staining it, and the preliminary treatment, as outlined, makes this more difficult and perhaps impossible.

Dr. Lydings thought the extirpation of the sacs should depend entirely upon the age of the patients, and upon their condition, because, while in some cases it is the only thing to do, in other cases, especially in the young, the infection can be controlled by other methods of procedure.

4. Centralb. f. Bacteriologie, bd. 54, 1912.

5. Berl. klin. Wochens., 1913, bd. 8.

6. Berl. klin. Wochens., 1913, bd. 32.

7. Klin. Monatsb. f. Augenh., October and November, 1913.

8. Von Graefe, Arch. f. Ophthal., 89, p. 29.

9. Aerzt. Verein, Marburg, May 24, 1914.

10. Muenchener Med. Wochenschrift, p. 1326.

11. Muenchener Med. Woch., No. 27.



Dr. Nance believes we can do something as oculists. in instructing physicians who are in charge of many of the manufacturing plants where many of these cases originate.

He has endeavored to advise the immediate use of nitrate of silver in the cases of foreign body in the cornea. It is an easy matter to have a fresh solution of nitrate of silver, and as soon as the foreign body is removed, to insert a few drops of say one-half of one per cent. solution, which he finds is quite effective, at times, in preventing pneumococcic infection.

He hopes that the new preparation that we are all using now, the ethyl-hydrocuprein, may prove as efficacious as it is said to have been in some of the clinics in Europe. As a method of prophylaxis it may be valuable.

Dr. Dunn treated a man with cornealosis last Saturday, by injection of one to 1,500 cyanide solution, diluted the pupil, bandaged the eye, and on returning home, expects to find that ulcer in a progressive state. In his experience the use of cyanide of mercury and atropin will stop this cornealosis as surely as anything we have had.

Dr. Edmondson has used ethyl-hydrocuprein in various strengths, without effect.

Dr. Worthington is an advocate of safety first in the treatment of these cases, and believes one of our main lines of defense is in prophylaxis. He reported seeing two cases, within three months, in which the eyes were lost through meddlesome surgery. In one case a foreign body was removed by a sharpened stick by a fellowworkman, and the ulcer followed, with the loss of the eyesight. In the second case, a sharpened pencil was used by the workman, the case not coming to the doctor for a number of days afterwards.

He advocated more enlightenment along these lines for the laymen and co-operation to prevent these continuous destructions of useful eyes.

Dr. Snyder was amused to hear them say "educate the layman." He was once on the witness stand in a lawsuit, where a woman sued a practitioner for twenty-five thousand dollars because she lost one eye, as the result of an ophthalmitis which had been incurred through the doctor picking at the cornea with a toothpick. Why educate the laymen?

Dr. Spitz thought it necessary in corneal ulcers to treat the patients as well as the eye. One of the worst enemies of corneal ulcers is suppurative sinuses. In some of these cases which the rhinologist was able to clear up favorably, the case got well, with just the ordinary treatment for ulcers. In two cases where the sinusitis was very severe, the sight was lost in spite of the best of treatment.

Dr. J. C. Beck, the Chairman, thought this subject will never grow old, because we have to meet with it so frequently, in our work. One of the special duties of this section should be to encourage a campaign of education that the laity may bring these cases immediately to the doctor.

He described the distinguished services to medicine in the city council of Chicago of Dr. Willis O.

Nance. He thought it a proper function of our section to send such men as Dr. Nance to represent us with so much dignity and with so much judgment, to these places where they can accomplish the proper kind of legislation; sane legislation on behalf of the medical profession and ultimately, of course, for the benefit of humanity.

The element of prognosis of ulcers should be considered, particularly in old people. An infection from sinuses or infection from the teeth or pyorrhea could easily complicate the case in such a fashion that the prognosis to those folks would be very serious indeed.

Dr. Peck thought it would be impracticable to wait to make a bacteriological examination of the corneal ulcer in every case. The general practitioner should cleanse the eye as soon as the case comes to him and send the case to the aculist. The oculist can very readily determine whether that case should be subjected to bacteriological examination, but the general practitioner frequently cannot determine—in fact the general practitioner often does not recognize that there is an ulcer of the cornea.

All of the gentlemen quoted state that as a general thing the pain is very severe, in these pneumococcic ulcers, on the first application of the ethyl-hydrocuprein. It is difficult to apply it where it must come in contact with the ulcer, without cocaineization.

His experience is that the laboring class cannot devote the time to treatment of dacryocystitis

---

## TWO YEARS CLINICAL RESEARCH ON THE TRACHOMA QUESTION IN SOUTHERN ILLINOIS.\*

EDWARD E. EDMONDSON, M. D., OPH. D.,  
MT. VERNON, ILLINOIS.

An increasing desire to make some first-hand studies of the trachoma question led me to locate in Southern Illinois nearly three years ago with a view of being able to study the cases treated not only from month to month but also from year to year, and thus to form conclusions that would not be vitiated by being so far from the patient that this is impossible, as is the case when practicing in a district free from trachoma.

It was at the suggestion of Doctor Oliver Tydings that I undertook the investigation of the relation between the clinical similarities of trachoma and tuberculosis. The United States Government reports showed a remarkable ratio between the two diseases, and in the experience of Doctor Tydings the trachoma cases responded to anti-tuberculosis treatment with encouraging results, and he communicated this fact to me. I

---

\*Read before the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 17, 1916.

set about the study of the effect on trachoma cases of the use of Koch's Old Tuberculin in the dilutions of .0001, .001, and .01 and even .1 and full strength. These dilutions were given as all clinicians use them, beginning at the .0001 dilution and increasing the dosage as did Koch and Murphy. In thirty cases I found that more than 95 per cent. responded with a positive local reaction, but, to my surprise, I saw no focal reaction in any case.

There was a remarkable relief in one case of what seemed to be a relighting of an old trachoma process by the administration of a few doses of Old Tuberculin, but later study of the same case has convinced me that it is one of those old cases of trachoma, which having passed through the cicatricial stage is more or less atrophic, and that there is an associated tuberculous lesion somewhere in the body which manifests as a faint episcleral blush and responds to tuberculin in all cases even in those which have not had trachoma.

I am, therefore, of the conviction that there is no real association between trachoma and tuberculosis except as fellow criminals, with the possibility that tuberculosis is more often the cause of a general lowered resistance which therefore affords the trachoma organism greater facility for the formation of colonies in the follicles of the conjunctiva.

There being no focal reaction in any case of trachoma from the administration of Old Tuberculin in the arm in any dosage, I then used the Calmette test with a like negative result; this experiment was followed with the subconjunctival injection of the various strengths of tuberculin with no reaction after the effect of the tuberculin disappeared.

I then turned to the different therapeutic measures which have been in use in the treatment of trachoma and have found the following of value; in all cases with granulations in the formative and extrusive stage the following routine treatment has given me the most satisfactory results:

1. Denudation of the tops of the follicles with a rasp;
2. Expression of the follicles with roller forceps;
3. Careful grattage of the area involved with a piece of gauze dipped in .001 bichlorid of mercury solution till the conjunctiva looks like velvet and no granulations are palpable;

4. Powdered boric acid is then placed in the conjunctival sac and the eye closed; the eye is then dressed with White's ointment and 1 per cent. atropin, followed with hot fomentations from an hour to an hour and a half. The next day the eye is treated with powdered boric and followed by 5 per cent. Dionin ointment.

I noted in the United States Public Health Service Hospitals that the after-treatment consists of 5 per cent. trichloroacetic acid in glycerin applied with a swab of cotton and immediately washed with normal salt solution.

I have observed Doctor Melville Black of Denver using freshly made solution of tincture of iodine and silver nitrate in glycerin as the most satisfactory after-treatment. But I find the pulverized boric acid and dionin to be quite as satisfactory in my hands as either of the other methods.

As soon as the acute reaction has subsided I have the patient use 1 per cent. copper sulphate in 9 per cent. glycerin and 90 per cent. water (known as the Prince Treatment). This sometimes proves to be rather painful and I have the patient dilute it with more water.

Pannus is a rather frequent complication of trachoma in the second stage and I have found the use of increasing percentage of dionin in petrolatum to be the most satisfactory agent for the speedy and complete clearing of the cornea of this distressing obstruction of vision.

The Government surgeons express to me the opinion that when the lids are free from granulations the pannus will gradually disappear, and this is true in large measure, but with the cases which I have studied carefully there are areas which do not clear and these yield immediately to dionin.

In some twenty cases of entropion I have done a modified operation taken from the accepted operations in part. I make the incision at the usual place about three millimeters above the line of the lashes and down to the tarsal plate, and the upper flap is then dissected up to the upper edge of the tarsus, and the lower flap is carefully dissected down to and around the edge of the lower border of the tarsus so as to free the edge of the lid from the inturning tarsus. The lower flap is then sutured to the upper edge of the tarsal plate by which means the lashes are



directed vertically and the free ends of the sutures are then drawn to the brow and held in place by adhesive strips. I usually allow these to remain for five days, and when it is safe to remove them. The glands emptying at the margin of the lid are sectioned by this method, but after two years there have resulted no complicating cysts or chalazia—no bad after effects whatever.

In dealing with ulceration of the cornea due to trachoma, the longest time required to effect a symptomatic cure was ten weeks, while the average time was three weeks. Ulceration has a cause and that cause must be found and removed in order to insure speedy relief from the most painful of all complications of trachoma.

The cause of trachoma is frequently found to be a roughened upper lid, which having denuded the cornea and caused pain, is gripped very tightly by the patient, and this only increases the difficulty. In such cases radical treatment of the lids is necessary, as outlined above. Then with a local application of atropin and White's ointment and dionin once a week, the ulcers readily disappear.

When the ulceration is chronic and has infiltrated through the layers of the cornea, this treatment is not sufficiently radical; and I have, therefore, found the best results by the use of a subconjunctival injection of cyanide of mercury, being somewhat larger doses than are generally employed in the treatment of iritis. This usually clears the cornea of ulcers much more rapidly, and is to be preceded by the routine treatment as outlined above.

The shrinkage of the conjunctival sac is best treated by the local application of Dionin ointment, beginning with five per cent. and increasing to ten per cent. Lids that have been unable to close have been relaxed by this method until they can come together comfortably and the eye remain moist.

I have under observation now two cases of xerosis of the cornea due to lagophthalmos; in both of these cases there is a fish scale like membrane formed over the cornea, which gives it a skimmed milk appearance, very much like that of a dead animal. In these cases there are no tears, and both patients complain that the eyes have not been moist in several years.

One of these patients came to me for enucleation, but desiring to see what might be done in

her case, I induced her to allow me to treat it medically, which she reluctantly consented to do. I began by irrigating the eye, and applying boric acid powder, to be followed with a five per cent. Dionin ointment. This was put on twice a week, until the eye has become moist. The scaling or exfoliating has practically ceased, and the eye is remaining moist with a considerable increase in vision.

The second case is one in which the patient has only one eye, and therefore enucleation is unthinkable. These two cases are receiving the same treatment, with a like improvement in vision. The shrunken conjunctival sac is being relaxed by the Dionin ointment and the cornea is becoming clearer; and I have hopes from the favorable progress of the two cases that we will succeed ultimately in getting sufficient relaxation by medical or surgical means to hold the lids together so that the normal moisture of the eye may become permanent.

Two and a half year's study of trachoma in its various manifestations and complications leads me to the opinion that trachoma is not a manifestation of tuberculosis, although tuberculosis predisposes to trachoma by reducing the general resistance of the body; second, with tuberculosis there is no focal reaction in the trachoma lesions; third, the proper treatment of tuberculosis in cases showing tuberculous lesions will aid in the restoration of the general resistance of the body, and, therefore, assist materially in the recovery of trachoma; but that trachoma should receive specific treatment for itself.

In my hands these chronic ulcers, pannus, symblepharon, xerosis of the cornea, are conditions that may be benefited in a marked way by appropriate treatment, and have responded most readily to the treatment outlined in this paper.

I feel that we should not discourage trachoma patients, but should rationally care for each complication, which in nearly all cases have been considerably improved, many of them rendered quite comfortable, and the patient correspondingly happy. I am inclined to the opinion that trachoma is a curable condition, when treated early with radical means and for a sufficient length of time. Of the cases I have treated in southern Illinois, none of them have required longer treatment than three months.

## DISCUSSION.

Dr. Tydings noted the tubercular reaction in a very large percentage of the cases. The United States Bureau's statistics of the number of patients affected with trachoma and tuberculosis among the Indian tribes, where the reports were made, were almost parallel. That there is a relationship existing between those two diseases, there is no question in his mind. He suggested the high frequency in the way of treatment of those diseases, as it has served a very good purpose, especially in pannus and diseases involving the cornea, where it gives a very surprising reaction. He had found the use of the cyanide of mercury useful, but in some cases had distressing results from it.

He is quite sure that the roughing over of the lid is not the cause of every case of pannus, because he has seen pannus in trachoma cases where the mucosa of the lids were absolutely normal, on examination with the loop or by the other methods.

Dr. Dunn, of Cairo, Illinois, where he has practiced twenty years, quoted an eye journal to the effect that conductors on the Illinois Central trains going through Cairo, instead of calling out Cairo, called out "Trachoma," owing to the prevalence of the disease there, but admitted that they have not been able to solve the question there.

He advocated the expression operation with compression forceps in fresh cases, but never treats the conjunctiva by stripping.

Dr. Pratt, of Aurora, Illinois, noted a great many trachoma cases, on account of the railroad there. For eighteen years he has used massage of the lids with boric acid powder, and gets better results from that line than anything else. He has tried expression too, but the after-results seemed to be better by simply massaging the lids with a swab cotton wound tight, and taking up the granulations. It seems to start an inflammation there that recovers very rapidly, especially in the acute stage. He treats many men now on Saturday nights, and they are ready to work on Monday.

Dr. Edmondson said he had not used the high frequency on the cases, but advised others to try it. He believes that the use of tuberculum in these cases will be highly beneficial.

He thinks no one, at the present time, uses sufficient force on expression to lacerate the lid. It is a case of clearing up some infection, and the cyanide of mercury brings perhaps the quickest results in pannus. I use Dionin ointment every five days, increasing it to ten per cent. after three or four applications of the five per cent.

He had not heard of anybody expressing a trachoma case in the third stage. After reaching the cicatrical stage, there is nothing further to do except to take care of the complication and the sequelæ.

He found some who complained about the use of boric acid being painful. Has used it in all forms and stages and finds that there are times when it gives a very satisfactory result.

## PSYCHOTHERAPY\*

## A BIT OF HISTORY AND PERSONAL EXPERIENCE.

H. W. LONG, M. D.,  
ELMWOOD, ILL.

This paper is offered with the hope that a more general interest and inquiry into things psychical may be stimulated.

Permit me to call your attention to an art or principle which is the most ancient, and yet the most modern, of therapeutic remedies. It may be compared to love—ages old, yet ever new.

It is the most maligned and misused, and yet the most revered and universally used.

It has been used to produce the most wonderful and miraculous results. Also it has been the cause of the most terrible suffering—even death.

Perhaps no other subject has received so much attention. The literature is so voluminous that it would be more practical to measure it by the ton than by the volume. And yet the last word has not been said, nor is it even in sight.

The history of psychotherapy or suggestion is so very extensive and rich with interest, that to give anything like a well-connected review in a paper of this sort would be out of the question. So we will only notice such as will serve our purpose.

Its ancientness may be noted by the record found in the Ebers Papyrus, which contains the record of healing by the laying on of hands in 1552 B. C.

The priests of Chaldea employed the same or similar methods of healing. In the famous temples of health the priests are credited with working numerous cures by the mere touch of the hand. These temples also contained special sleeping chambers, which were reputed to give exceptional benefit by reposing in them.

Bithynia, an early Roman physician, won considerable fame by systematically using the induced trance in the treatment of certain diseases.

Mesmer is the first person of record to make any attempt to explain the phenomena. His theory was that it was a fluid that flowed through an iron rod from his body to that of the patient. Mesmer was very fantastic and spectacular in his methods, but withal he was able to arouse considerable interest. After having refused a grant from the crown for his secret, he established a school in 1783, and from which his

\*Read before the Peoria Medical Society, June 20, 1916.



pupils carried his views and methods over a very wide territory. Some time after this period quite extensive investigations were carried on in Paris and Nancy. Then follow the remarkable achievements of such men as Liebault, Charcot, Janet, Saltpetriere, and, at the present time, Monroe, Sidis, Prince, Munsterberg and a host of others.

From Buxton's "Anesthetics" I quote the following:

After Mesmer's downfall the subject was kept before the world by the practice of Marquis de Puységur and the somnambulists. In 1829 Cloquet amputated a breast, the patient being rendered insensible through having been thrown into the hypnotic state. Elliotson, a firm believer in the practical uses of animal magnetism in surgery, employed it on several occasions with success.

Braid of Manchester, in 1841 made considerable trial of what he called neurohypnotic trance as a means of producing surgical anesthesia.

Similar experiments were carried out in India by Dr. Esdaile, who performed no less than three hundred operations upon patients in the hypnotic state.

Since 1860 the subject has received only very scant attention, so far as the regular profession has been concerned, and it is only in the last decade or so that a renewed interest is being manifested. In this time we have allowed one of the most valuable of our therapeutic remedies not to lie idle, but to be taken up by various fads and pathies, such as the Christian Science, Osteopath, Chiropractor, Faith Healer, Neoropath and a host of other drugless healers, who have absolutely nothing to recommend them except the almost infinite variety of methods in which they use suggestion, and as to the number of people requiring and accepting such treatment, witness the fact that it is sufficient to furnish a large number of these operators a competence.

To use suggestion does not require a knowledge even of the fundamentals of medicine, hence it may be used with more or less success by persons who would not be able to make an intelligent differentiation between a furuncle and a fracture.

No one can review the work of most of the old authors, or any of the late ones, without appreciating to some extent, at any rate, the vast value of psychotherapy, and one of the great wonders is why it is not more generally used by the profession.

Why has psychotherapy fallen into disfavor with the regular profession? Just a few reasons

as they have occurred to me, and here I am using suggestion in its broadest sense so as to include hypnotism, mesmerism, etc.

In the first place, suggestive therapy does not lend itself well to final analysis by any of the usual laboratory methods.

There is such a wide variation in the reaction of the different patients, and a variability of results of the different operators, and such a multitude of methods that it all tends to confusion.

Then when the microscope came into general use, and the study of germ life and its relation to the causation of diseases was taken up, the pendulum swung too far, and many of us conceived the notion that we should find a germ as the causative factor for every disease. Thus much study of bugs made us "buggy" over bugs, and we all but forgot that there ever was such a thing as psychotherapy or psychical force. The new pathology incident to our microscopical and chemical work, the new therapeutic remedies and measures, took an immense amount of time and work to bring up to its present standard of accuracy and proficiency. Then came the discovery and general use of chloroform and ether, which acted somewhat as a last straw.

Many have condemned suggestion without even a trial. Others made sporadic or only half-hearted attempts; and because the results were not immediately forthcoming, or not up to their expectations, have been rather industrious in voicing their skepticism and denunciations, and quite free in giving their opinions of those who did use it. This has had the effect of driving the more timid from the open field, and those who are less timid have taken to the advertising methods—its use as stage entertainment by street fakirs and mountebanks of every description. The fact that it forms the chief ingredient of every "get-rich-quick" scheme, fraud and swindle of every kind has given it a very shady reputation among the laity. This is not much to be wondered at because the unscrupulous have been very active, and have operated almost without let or hindrance. Hence, in the presence of such an unfavorable atmosphere and wariness any mention of hypnotism, mesmerism, or even suggestion, is sufficient to cause the patient to become suspicious, and automatically guards are placed which render your task very much more difficult, if indeed you make any headway at all. Much credit should be given the popular and lay

journals in their recent effort to overcome this very unpleasant condition of affairs.

The psychic forces may be described as being very delicate and tender and do not thrive well under adverse or unfavorable conditions. They are, indeed, so delicate and so subtle, and yet so potent and so unexplainable, that many have refused it a consideration.

No other one thing makes it so clear that each patient is a study to itself. No one can foretell the effect on any given patient with any degree of certainty till a trial or test has been made.

The advance of medicine in the last five or six decades has been truly epoch-making. We have been very diligent, and have become very successful with diseases of a mechanical nature, and we have been so busy trying to keep in the procession that we have given too little attention to the psychic influences, and, as a result, a large class of patients have appeared who needed suggestion, and that alone; whose condition could not be explained by the new pathologies, nor could they be cured by the new medical or other treatment at our command. These patients formed a forlorn procession, going from one doctor's office to another without relief, till they, in desperation, went to the Christian Science, Osteopath or some other of the psychists. There they obtained the desired relief, and in their gratitude they have reversed the procession; they now first go to the Christian Science, Osteopath or others, and, finally, if unavoidable, they will see a doctor. (Sometimes—not always.)

We have witnessed the springing up and luxuriant growth of numerous schools and pathies, fads and fancies as the result of our neglect to furnish a variety of treatment which we have considered beneath our dignity, or for some other reason have refused to give.

The demand became imperative and insistent, so that our drugless friends did not have the time to obtain a complete medical education; besides, for their special needs, it was not essential, and by a great many of them it was considered entirely superfluous and a waste of valuable time.

Every drugless healer (also the quack and charlatan) depends on the psychic influences entirely, some of them using the crudest of methods, and as innocent of any medical training as a babe, and yet they continue to multiply.

This has produced a very unpleasant and un-

tenable state of affairs. The various methods of licensure are anything but satisfactory, and in so far as they are controlled by law instead of Board rule, it amounts to class legislation, which is never satisfactory, and should, at the earliest moment possible, be replaced by more comprehensive enactments.

The National Licensing Board that has been recently organized, is a step in the right direction only, for the fact that an unhealthy condition is recognized. The remedy that this Board proposes is purely empirical and can in no sense act as a cure for our troubles. It will place an added burden upon the student or applicant before this Board, which in return can give only a promise of an advantage of very doubtful value because this Board can never be clothed with the power to enforce their recommendations.

Would it not be more in keeping with science if a prophylactic was offered by giving more attention to our schools and colleges? This National Board idea is almost as brilliant as the college of surgeons that was offered to the profession a few years ago.

None but the most superficial will deny those folk, i. e., the drugless healers, especially the Christian Science, the credit of doing some good—indeed, they have done much good. They have made the world a brighter and more pleasant place for a multitude of folks; but in the same breath they may be justly credited with the spread of contagious diseases, and even the loss of life, because of their lack of diagnostic acumen and their limited therapeutic and prophylactic measures.

And where does the fault lie? Is it possible that our universities and colleges are the greatest sinners? A case in point—e. g.: When I was preparing for my degrees, in neither the Washington nor the New York universities was there ever a lecture on psychiatry given. Not only that, but any reference to the subject or the works on the subject were studiously avoided, as though it were a vile pestilence.

If any school of Class A or B even now gives anything like an adequate course in psychiatry it has not come to my notice. However, I should say just here, in connection with this statement, that my inquiry has neither been very extensive or recent.

There is, indeed, a very great need for sym-



pathy and insight to perceive all aspects of the cases which involve the mind as well as the body, and for a philosophy whereby a physician shall himself see life steadily, and also to see it whole, and so assist his patients to a like view.

To dispel false ideas which surround death with horror is surely an obvious duty; equally obligatory is it, when discussion is not feasible, to fill a patient's thoughts with all that can make his remaining life peaceful and happy. The belief is too general that psychotherapy consists in deceiving the patient for his own good. This is the method of the charlatan—but in such a role a physician can never be more than an amateur, for the charlatan succeeds best when he first deceives himself, and the true physician—not able for an instant to deceive himself—is but ill-adapted to an elaborate deceiving of others. The physician who has a unifying philosophy of his own is thereby able to dispense with makeshifts, and to speak convincingly to his patients, administer hope with truth, courage with frankness—and his sincerity will deepen public confidence.

This confidence, surely due to science and disinterested motives, is often sacrificed unwittingly by the physician himself. He administers a therapeutic lie at the earnest solicitation of the patient's friends.

Presently one of those friends falls ill, and the physician is puzzled to know why this new patient fails to respond to his word of encouragement and good-cheer. The physician whose statements, uniformly squaring with facts bear witness to his skill and to his sincerity, is the only one fitted to command the respect of the public and to inspire his patients with confidence in himself, and hence with faith in his words.

We all use suggestion more or less, some consciously and some unconsciously; also some use it to cure their patients—and some, to keep them coming.

I shall not attempt to give you any directions or methods of using suggestion; that has already been done, and so much better than I could possibly do. But I will give you a brief history of a few cases that have been selected, covering quite a period of time, range of conditions and also variety of methods used.

In the case of the first patient which I shall relate to you, the suggestions given were entirely unpremeditated and without malice of fore-

thought. I didn't even appreciate what had been done till my attention was called to it. This, as you will readily note, is a waking suggestion, or one that is given in the ordinary conversation.

Year 1898, H. G., a robust appearing German, came to the regimental dispensary at Camp Tanner just prior to the war with Spain, said that he wanted a laxative, as he had not had a movement for three days. I took a teaspoon only level full of Epsom salts, dissolved it in one-half glass of water, he watching the stirring very intently. When handed the glass he asked what he should do with it. He was told to swallow it, of course; after doing so, he wanted to know when he could expect results. He was told that he had better supply himself with whatever he was likely to need and start, because he would have to run before he got there. The next day this patient came to the dispensary and made this request: "Oh, doctor, I never had such a lovely movement in all my life, and I had to run like hell, too."

1905. A case of incorrigibility. J. A., referred by a minister. This boy, whose age was 17, was poorly developed and under-nourished; was several grades behind in his school work; would not apply himself; played hookey, was given to petty thieving, an inveterate liar, totally unreliable, obscene in language and manners—a masturbator. His parents and teachers had coaxed, pled, tried to bribe and used corporal punishment by turns without result. His tonsils had been removed and he had been circumcised, and still no results. When he came to my office a more pitiable specimen you will hardly ever see. His clothes were just thrown on—not even buttoned, only sufficient to keep them from falling off. His person was likewise unkept and filthy, his hair, which had been allowed to grow shaggy, was actually mangy. In order to get into his confidence, I asked him what he would like to do—if he had any plans. He thought that he would like to join the navy.

So I walked with him to the naval recruiting station, which was not a great distance away, but he was too much undersize and they would not accept him. On returning to my office, I had not yet evolved a plan of action, so he was dismissed with instructions to return the next day, which he did.

I then told him I was going to put him to sleep. He at first demurred, but after it was explained to him that no harm would follow, but that he would be benefited, he consented, and under the combined method of staring and suggestion, he very soon was sound asleep. While asleep he was told just what he must do.

In the first four treatments he was given only positive suggestions. Several post suggestions were given as a test. I will only recite one. He was told during sleep that he would return to my office three days hence at 9:15 a. m. I had forgotten all about the order, when on the morning of the appointed day at 9:15 I heard a very vigorous and business-like ring at the door. On opening it I found my patient all out of breath and panting like a race horse. After ascer-

taining that no one was in serious trouble, I had him take a seat and rest a while, and then I asked him to relate the cause of so much rush when no one was in danger. He said that he was out doing some errands for his mother, when a voice seemed to say: "You are due at the doctor's office at 9:15." When he got to the house he found that he had only five minutes in which to make seven blocks. He said to his mother: "A few minutes will not matter, I am already tired." He started out walking at a good pace, but before he knew it he was running, but he did not think of stopping, but increased his speed some, so he thought, when he discovered what he was doing.

In this case seven treatments were given with most beautiful results. He went back to school and his teacher reported that he was one of the hardest workers in her room, and in two months from the time of taking his first treatment he had gained one grade. He became neat in appearance and pleasing in address. I lost track of this patient in one and one-half years; up to that time no tendency to relapse had been noticed.

The next two cases following will illustrate the inability, or, rather, the failure, to always get the best results from waking suggestions.

1907. M. K., a little girl aged twelve years, fairly well nourished, quite nervous, came in with what she called a tick or clock in her throat. Examination revealed nothing abnormal, except a spasmodic, rhythmic motion of the uvula, which could be seen to gradually descend to the base of the tongue, and then the soft palate would suddenly contract, bringing the uvula up with a clicking sound, which could be distinctly heard across the room. This would occur about forty times per minute.

She was placed on anti-spasmodics, and given full doses of the bromides and then valarian and assafoetida for four days, and at the same time waking suggestions were given her in as positive a manner as I could command, without any results that I could notice. On the fifth day she was put to sleep after Monroe's method. She responded beautifully—the spasms stopped at once and have never returned.

1909. J. C., a young man aged 19. The first examination revealed nervousness but no physical changes of importance, but this interesting bit of history was obtained: About three months previous, while at a public sale, he saw a man have a fit. He was very much frightened at the time, and later became fearful that he would suffer the same fate. He was given a sedative and a brisk purge, with the assurance that when his bowels moved freely and the other medicine had had time to take effect, he would be all right. But instead, four days later I was called eight miles into the country to see him. I found him in a state of great fear and anxiety. He imagined first that he could not lie down, and then he could not sit down, and was afraid to go to sleep. He had not sat down for more than a few seconds at a time for the past 24 hours. Had not slept a wink in the past 48 hours. His general expression was that of abject fear, his eyes staring and wild, mucous membranes

dry, respirations forty per minute, shallow and panting, pulse bounding along at 100. When asked to sit down, he was sure that he could not without some dire calamity happening, but on being assured that I could prevent anything serious, he sat down very gingerly. To complete my examination, he was asked to lie down on a lounge, which he did only after he was again reassured.

After completing my examination he was put to sleep by the Monroe method. He went to sleep very promptly, the pulse and respiration coming down to the normal within two minutes. His father, sitting near by, thought that must be a most powerful medicine to act that quick. So I kept busy for a while, explaining what a wonderful and really powerful remedy it was and just the thing the boy needed to make him well.

Five treatments were given this patient. Six weeks after the first treatment I saw this patient driving a spirited team through town and he was handling the lines and the team like a circus driver.

Recovery perfect and no indications of a recurrence to date.

#### A CASE OF PSYCHONALESIS.

1911. R. D. Referred by Dr. Z. A man aged 60 years, a carpenter and millwright, complained of a bursting headache and extreme nervousness. On attempting to lie down would choke up, and would be able to breathe only with difficulty, or would see things, i. e., animals or indescribable things on the walls, or the walls would appear to fall over on him. A closed room was especially disturbing—he tried sleeping out of doors—which helped for a while. He became very restless, felt compelled to walk and did so day and night; could not sit at the table long enough to eat his meals; if any one in his presence should speak of going on a journey or of a death or a funeral, it would produce what he termed "spells."

During these spells he experienced a sickish sensation, a tightening of the throat and chest, was impelled to get up and move about. Those spells had increased in frequency till he would scarcely be over one till another would come on, and many times without apparent cause. All these conditions had been coming on and increasing in severity for about ten years.

Physical examination negative, except for considerable emaciation, a worn, haggard appearance and weakness.

*Treatment:* He was told that he must have had a severe mental shock at some time or other, and that it would be necessary for us to go back over his life and find it to give him the desired relief. After four sittings and at the expense of much time and patience, it was found that his mother died when he was about ten years of age, and his father soon brought home a step-mother, who would not have him about, so his father took him to an uncle's to live. He was very seriously disappointed because he could not be with his father, and spent many hours looking for him in the direction from which he expected him to come. Many nights he cried himself to sleep because he did



not come. Many details were brought out by questioning, so that the entire history of his life was gone over and discussed. He was told to expect improvement to begin at once, and that very soon he would be able to go back to work, and that life would no longer be a burden to him, but a pleasure.

*Results:* The spell immediately became lighter and less frequent, disappearing altogether in two weeks; was soon able to sleep eight hours at a time; regained his appetite and strength, and returned to work in three weeks. While the improvement was very marked and lasting for that particular nervous manifestation it was not complete—headaches were only slightly improved—since there were also lesions of the central nervous system. Three years later our patient suffered an attack of acute mania with homicidal tendencies and died 15 days after being placed in the hospital.

#### SIMPLE AGGRAVATED HYSTERIA.

1910. Mrs. J., aged 65 years, came under my care a few days after running away from the Proctor hospital, while under the care of Dr. R. To recite her symptoms as she did to me would require volumes. Every day I would receive a new installment, with some of the old ones worked up in more expressive language. She had every known and many unheard-of symptoms catalogued and at her tongue's end, and loved to regale her callers with them. She never manifested any interest in things outside of herself for more than a few minutes at a time. Seemed happiest when she could get some sympathetic soul to listen and sympathize with her while she related how "terrible—perfectly terrible—her sufferings were, or how she thought she would surely die, and the time that she came very near—oh, so very near dying—was all but gone. Oh, it was just terrible!"

Well, it will be sufficient to say that the lady was in this condition more or less for fifteen years, and it seemed to have come up to its zenith about the time that she ran away from the hospital.

She had taken to her bed about four months previous, and was very helpless when anyone was about. Her physical condition was in a very fair state of preservation and repair and well nourished.

*Treatment:* Waking suggestion was tried, but before I knew it, she would be relating a new symptom to me. I then tried to put her to sleep, but could only get as far as the somnial stage, and after few trials failed even to do that well. Then we tried contradicting her, and in that we only succeeded in arousing a mild state of anger.

*Results:* In a little more than a month she was out driving every day—before the end of three months she made quite a long railroad journey to visit some friends—the most of this journey she made alone. On her return some months later, she took up and did most of her own housework. Within the last two years she has lost her husband, and is bearing up under the loss very well.

Finally, I am yet unable to say to which method the most credit should be given.

#### SURGICAL ANESTHESIA.

1913. Mr. I. Aged 19 years. I was requested by Dr. Z. to give the anesthesia for a rib resection for the relief of a very extensive empyema which had followed a severe left-sided pneumonia. Chloroform, about thirty drops, and suggestion were used. Following the operation, when he was told to awaken, he did so promptly and would not believe that it was all over till he was shown some of the pus.

This patient made a rapid and uneventful recovery.

In the same year the same method was used with not more than ten drops of chloroform, to remove a small tumor (a chalazion) about the size of a full grown pea from the eyelid of D. L., a little girl of only three years. The operation was timed for her regular afternoon nap. When we had finished the operation, suggestions were given for her to sleep for about her usual period, which she did, awakening as happy as usual, and did not know that anything had been done till she happened to look into the mirror as she was being made ready for bed.

Both of the above cases showed some signs of distress during the operation, i. e., the anesthesia was not complete, but there was no shock—not even a recollection of any pain.

1915. J. R., a boy 8 years old, received an infection through a wound on the thumb. When first seen the hand and arm were very much swollen, the swelling extending to the shoulder—very painful; temperature 103. But little sleep in the past 48 hours. By vigorous treatment in two days the swelling was very much cleared up except in the fleshy part of the forearm, where it showed signs of breaking down. The lad was put to sleep by suggestions only, and the arm laid open rather wide and deep in the most favorable site, which allowed a large quantity of thick black blood to escape. The boy made some fuss when this was done, but did not move the arm a fraction of an inch. He was given further sleep suggestions and told to sleep for three hours, which he did. When he awakened he had no recollection whatever of what had been done, and he was just as glad to see me after the operation as before. He proceeded to a very rapid and complete recovery.

1915. C. S., boy, ten years old, sustained a fracture of both radius and ulna about the middle third of the right arm. I saw him in 15 or 20 minutes after the accident and tried to put him into a suggestive sleep. He was very tractable and made a brave effort to do what he was told, but we did not succeed very well. The excitement of himself and those about and the pain were too much to overcome, but he did get a thorough relaxation of the muscles and the replacement of the fragments was not hindered by even the slightest muscular resistance.

The use of suggestion in obstetrical practice is especially gratifying both to yourself and the patient. It has none of the disadvantages nor dangers of the twilight sleep or any other method of drugging. In a tractable case, suggestion is much superior to drugging.

The literature is almost bereft of reports on the use of suggestion in obstetrical work. However, I have conducted a fair number of confinements under varying stages of suggestion. The patient can be made to sleep between the contractions—a restful and thoroughly relaxing sleep. This allows a rapid relaxing and divulging of the tissues. Labor under these conditions will be more rapid and attended with less danger than any other method that I have ever tried. It will remove the *anxiety* and *fear*—the two elements that cause us the most trouble. Lacerations under these conditions become almost a negligible factor.

In several cases there seemed to be a total absence of any physical suffering, and none in whom I could arouse any response at all, would make any serious complaint. The per cent. of success in obstetrical practice is not as high as in other conditions, especially if attempted without a preliminary trial or training. If one sees the patient for the first time in the accouchment chamber, his chances for success are not flattering. There is too much excitement, and very often well-meaning persons are present who unwittingly destroy all your best efforts.

I will recite only one case, and that quite recent, in which considerable difficulties were overcome with very gratifying results:

Mrs. G. K., aged 22, first gestation, was first seen during the second or third month of gestation. Was very nervous, and when informed of her condition, entertained great fear that she could not go through the ordeal in safety. She was told at that time that there was no visible reason why she should not finish the gestation in perfect safety, also that a month or so before her confinement we would give her a treatment and training that would take her through the confinement in perfect safety and comfort. That she would not suffer any—she would have to work some, but there would not be any pain. Her nervousness increased to a rather alarming degree. From the fourth to the seventh months she would have fits of jealousy and rage. During such time she would burn books and papers, and threatened greater destruction. Also made very free use of vitriolic and unbecoming language. During her lucid periods she would realize that she had not done just what she meant to do and would promise not to do so again, but did not succeed very well. However, the attacks became much lighter and of shorter duration towards the end of the eighth month. About two weeks before confinement I tried to hypnotize her, but she became very suspicious and would not permit it. I then reasoned with her, and she finally promised to go to sleep the next time she came to the office. Her next visit to the

office was just the day before she was confined, but she could not yet quite consent to go to sleep, so we did not urge the matter but explained again what would be done and just how the confinement would progress.

She listened very attentively and again promised to go to sleep the next time. When I arrived for the confinement, labor had been in progress for some hours, and her husband related that she had been nervous and restless all right and was now just about to the breaking point. She soon became more composed and followed my directions to the letter. I had her walk about for a while to favor the descent, and when the head was well engaged in the pelvis she was put to bed and soon began to show anxiety and nervousness. She was then told that she might now go to sleep. The suggestions for sleep were accepted very kindly, and I could very distinctly feel the perineum relax and she went to sleep. The sleep was quite profound and she was allowed to rest about double the time between pains that she had been getting. While the contractions were less frequent, they were now made more effective. Birth took place without the slightest outcry, or sign of pain. A few minutes after the placenta was delivered she was awakened and smilingly said that she felt perfectly comfortable. On inquiry the next day she did not have a very vivid recollection of the last few pains, especially the delivery of the placenta, but assured me that the sleep was most restful—had rested fine all night, had no soreness whatever—felt that she might just as well be up and about.

The baby was perfectly normal in every respect, well nourished, fully developed, and weighed eight pounds.

#### A FAR-SEEING YOUNG MAN.

A young man dropped into a state of coma, and it was several days before he fully recovered. Later he spoke of his experience with a party of friends.

"Oh, yes," the young man said, in response to a question, "I knew all the time what was going on, and I also knew that I wasn't dead, because my feet were cold and I was hungry."

"I see," thoughtfully said one of his friends, "but how did that make you think that you were still alive?"

"Well," answered the young man, "I knew that if I were in heaven I wouldn't be hungry, and that if I were anywhere else my feet wouldn't be cold."

#### THE FEMININE CAUSE IN MEDICINE.

Without entering into the discussion begun some time ago by an eminent physician as to the merits of women in medicine, I would like to remark the absence of the following names from the lists published: Ann Oresia, Ethyl Chloride, Belle Adonna, Carrie O. Kinesis, Vera Montanum, Anna Phylaxis, Polly O. Myelitis, Rose Acea, Meta Plastic, Sarah Bellum, Ella Phantiasis, Emma Tropia, Molly Cule and Rena L. Calculus.



# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society, under the direction of the Publication Committee of the Council.

## GENERAL OFFICERS, 1915-16

PRESIDENT.....WILLIAM L. NOBLE, Chicago  
 FIRST VICE-PRESIDENT.....E. B. COOLLEY, Danville  
 SECOND VICE-PRESIDENT.....C. F. NEWCOMB, Champaign  
 TREASURER.....R. A. MCCLELLAND, Yorkville  
 SECRETARY.....A. J. MARKLEY, Belvidere  
 (Ex-officio Clerk of the Council).....W. H. GILMORE, Mt. Vernon

## THE COUNCIL

District 1—EMIL WINDMUELLER, Woodstock.  
 District 2—EDWIN S. GILLESPIE, Wenona.  
 District 3—CLYDE D. PENCE, Chicago.  
 District 4—AUGUST H. ARF, Moline.  
 District 5—C. S. NELSON, Springfield.  
 District 6—C. D. CENTER, Quincy.  
 District 7—C. F. BURKHARDT, Effingham.  
 District 8—C. E. PRICE, Robinson.  
 District 9—FRANK C. SIBLEY, Carmi.  
 CLYDE D. PENCE, *Chairman*, 3338 Ogden Avenue.

Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

## MEDICO-LEGAL COMMITTEE

ANDY HALL.....Mt. Vernon  
 WILLIAM O. KROHN.....Chicago  
 GEORGE STACY.....Jacksonville  
 D. R. MACMARTIN.....Chicago  
 C. B. KING, *Chairman*.....3938 Jackson Blvd., Chicago  
 THOMAS D. CANTRELL, *Secretary*.....Bloomington

## GENERAL COUNSEL

ROBERT J. FOLONIE.....39 S. La Salle Street, Chicago

State society will pay no bills for legal services except those contracted by the committee. Notify the Chairman at once. Don't employ attorneys.

OCTOBER, 1916

## Editorials

### ANOTHER INSINUATION.

The *Journal of the American Medical Association* thinks we committed grave error by publishing a paper written by a member of the American Medical Association, and read before one of the component Societies. The alleged error was because the author of the paper, which was on the serum treatment of defective thyroids, referred to the Mark White treatment of goiter. Of course, if we did commit error, we are sorry for it, but we do not yet see where we were so much more in error than is our critic at times.

The *Journal of the American Medical Association* also insinuated that we were advertising the Mark White preparations. This error we surely did not commit. We do not know Mark

White, and the *ILLINOIS MEDICAL JOURNAL* never advertised his products.

Our mentor also stated that Mark White is not a physician, that he can honestly lay claim only to being a veterinarian. Pasteur was not a physician. Neither Madam Curie or her late husband were physicians, and several other scientists who were very valuable to medical learning never attained the title of M. D.

To be consistent with its criticisms our critic thought it wise to follow its Mark White criticism with a letter from a missionary in China (a spiritual, not a medical missionary), who was diagnosing malignant pustule and curing it with ipecac poultices. He carried the ipecac in his first aid packages. Sometimes he poulticed for two days and then left another one for future use; and the *Journal of the American Medical Association* wishes to pass on to its readers this information,—this remedy tried and recommended by a spiritual missionary from the Orient.

"Oh, Consistency, thou art a jewel."

### HOSPITALIZATION OF TYPHOID FEVER.

Considerable annoyance has been caused the people in Chicago having typhoid fever in their families and the physicians taking care of them, because of a recent ruling of the Health Department. We understand the Department ruled that no patient having typhoid should be removed to a hospital without the consent of the Health Department. Permission would be granted by the Department to move a typhoid patient to a hospital only when a private room and a special nurse for the patient were secured.

The reason given for this ruling, we are informed, was that typhoid fever is a contagious disease. It is reputed that the real reason for the ruling was the great desire of the Department to show a smaller typhoid death rate for Chicago than other cities and previous administrations could show. The desire, of course, is creditable, but it seems unreasonable to cast such a burden of expense on poor patients as would be involved, and to put such annoyance on doctors, hospitals and ambulance owners, to say nothing of taking the business away from the doctors by putting the patients in Charity Institutions. Chicago has many little villages near its borders

which are dependent on Chicago for hospital care.

The rule, of course, prevents the poorer classes from going to a hospital at all, except the County Hospital, because they could not pay the fifty dollars (\$50.00) and up per week for a private room and special nurse.

Typhoid fever is not a contagious disease, and the danger of spreading the infection by hospitalization is nil. The order, we understand, has already deprived quite a number of patients from hospital care, and has also deprived the hospitals of legitimate business. In depriving patients in this way of hospital care, the real death rate from typhoid is thereby increased, although it might not show in Chicago's mortality records.

#### NEW RUSSIAN PUBLICATION.

Dr. H. R. Krasnow of Chicago has started a new medical publication in the Russian language. It is a popular medical monthly magazine, devoted to enlightening the Russians among the laity concerning Hygiene and Sanitation, and also to explaining the evil doings of the quack.

We note from its pages that Dr. Krasnow is editor-in-chief; Dr. G. Frank Butler, contributing editor; Dr. Moses Sahud, associate editor; and N. A. Spiegelglass, D. D. S., secretary.

The first issue is a neat appearing little journal, and it should accomplish a great amount of good. A publication of this sort placed in the hands of our new immigrants would add greatly toward a better hygienic condition, and would help in Americanizing our foreign-born citizens. The ILLINOIS MEDICAL JOURNAL wishes the editor a full measure of success.

#### TUBERCULOSIS NOTES.

In pregnancy the tuberculin reaction is less than that obtained in the non-pregnant. This may be entirely negative, probably due to the fact that antibodies are not readily formed during pregnancy, which explains in part the bad effects of tuberculosis during pregnancy.

Chronic coughs in the aged should be viewed with suspicion, and the sputum examined for bacilli.

Lack of percussion, dullness or retraction does not necessarily rule out apical tuberculosis.

Tr. iodine in large doses, given in cold milk, or water is advocated as the best single drug for phthisis.

Pressure on sternum and spinal column will often

in the presence of tuberculosis mediastinal glands cause the child to wince.

Four things absolutely required in making diagnosis of early tuberculosis are careful history, proper temperature record, physical examination and sputum analysis.

Single sputum examinations are not of value in early or incipient cases unless positive.

A normal or subnormal temperature in the morning with an elevated temperature in the evening is a characteristic of tuberculosis.

Malpractice suits have been instituted because of failure to diagnose tuberculosis.

A cough followed by deep inspiration will often bring out obscure rules.

Cardinal symptoms of tuberculosis: Rapid pulse, afternoon temperature, loss of weight, cough.

The first essential of treatment in tuberculosis is absolute rest.

### Public Health

#### THE POLIOMYELITIS OUTBREAK IN ILLINOIS

SUMMER AND FALL OF 1916

DISEASE NOW SUBSIDING RAPIDLY

RETURN NEXT SUMMER EXPECTED

During the period January 1-September 23 of the current year, 760 cases of poliomyelitis (infantile paralysis) have been reported to the Illinois State Board of Health. Forty of the cases were reported prior to July 1 and the balance, 720, since that date.

Of the 720 cases reported to the State Board of Health since July 1, 648 have been confirmed as cases of this disease and 72 more found to be other forms of illness.

The reports by months for the first half of the year were as follows: January, 1; February, 4; March, 5; April, 10; May, 6; June, 14. The excess of cases for this period over the corresponding period of the preceding year was only 3, showing that there was nothing unusual about the situation, at least not until after June 1.

It was not until after July first when the public press generally began to give scare-head publicity to the epidemic prevalence of the disease in New York City that any material increase in reports of cases was noticeable in Illinois. With this publicity there came reports of cases from several areas in Illinois, cases which previously had not been diagnosed as poliomyelitis, therefore not reported and not quarantined.

Every one of the 429 cases in the State outside of Chicago were examined by the medical officers attached to the state health service and in each case the medical officer not only made out a complete clinical and epidemiological report, but he also remained on the ground long enough to give explicit



instructions to the affected families and to the local authorities in the proper handling of the cases with a view to preventing the spread of infection. In numerous instances public meetings of physicians were held and addressed by the state medical experts. The field and office forces of the state board worked day and night, seven days every week, in the effort to afford the citizens of Illinois the largest measure of protection possible.

With very few exceptions, members of the medical profession, and all health, school and municipal authorities generally co-operated generously and perfectly with the State Board of Health in efforts to check the spread of the disease. Singularly enough an area in which such co-operation was not forthcoming was territory most seriously affected and the first to which the Board's attention was directed by reason of an outbreak in the month of May. This same area has been the scene of notable epidemic disturbances before.

Briefly summarized, the following are noteworthy facts relating to the recent outbreak of the disease in Illinois:

#### NOT AS PREVALENT AS IN 1911

So far as the available records show, the outbreak of poliomyelitis in Illinois this year was not as serious as in some recent preceding years. The 1911 death records, which probably are only sixty per cent, complete, show a total of 92 deaths from the disease for that year. This year—1916—the death total will hardly exceed 70 and the proportion of deaths to cases will be about 9 per cent. Assuming that the death rate of 1911 was about that of 1916, the total of cases in 1911 exceeded 1,300, or about 500 more than for the present year. And yet in 1911 very little was heard about the disease; certainly there was no such panicky condition of the public mind as was evident this year. Perhaps ignorance of the true character of the disease in 1911 accounts in largest part for the difference.

A summary of the cases reported by years since 1910, with a statement of reported deaths and proportion of deaths to cases show how incomplete the records of the preceding years are.

	Reported Cases	Reported Deaths	Deaths* Per 100 Cases Per Cent
1910 .....	137	77	56.2
1911 .....	141	92	65.2
1912 .....	450	58	12.9
1913 .....	126	25	19.8
1914 .....	142	26	18.3
1915 .....	81	..	...
1916 .....	648†	63†	9.7

\*Reported deaths about 60 per cent complete.

†Totals for 1916 up to and including September 23, confirmed cases.

No tabulation of deaths for 1915 account incomplete returns. New registration law in operation since January 1, 1916, bringing greatly improved registration.

#### DISTRIBUTION OF THE DISEASE

The distribution of the disease has been quite general throughout the state, 78 of the one hundred and two counties having had from 1 to 252 cases, the latter being Cook County. Counties reporting but one

case were Carroll, Cass, Edgar, Hardin, Jasper, Jo Daviess, Henard, Perry, Pulaski, Randolph, Scott and Morgan.

The counties most seriously affected, those having the highest case rate in proportion to population, were LaSalle, 55 cases; Macon, 25 cases; Piatt, 28 cases, and portions of Bureau, DeWitt, Livingston, Moultrie, St. Clair and Clark counties had equally threatening situations.

#### RESTRICTED AREAS

All of the territory mentioned in the preceding paragraph was declared Restricted Area and in the interest of public safety children under 12 years of age were excluded from school, church, theatres and all public gatherings and their movements restricted in a manner tending to prevent promiscuous assembling in public places. Health certificates were required of all children over 16 years of age as a prerequisite to travel within or out of these areas.

When the restrictions were raised and the schools permitted to open, thorough medical inspection of each child prior to admission to classes was demanded.

As has been true in previous epidemics of this disease, many communities developed but one case, at least one which was recognized as poliomyelitis, and most affected families having other children in the family have had but one child affected.

The following summary shows the distribution of cases by communities:

170 communities had	1 case.
39 communities had	2 cases.
20 communities had	3 cases.
4 communities had	4 cases.
3 communities had	5 cases.
1 community had	6 cases.
2 communities had	7 cases.
1 community had	8 cases.
1 community had	11 cases.
2 communities had	13 cases.
1 community had	15 cases.
1 (Chicago) had	219 cases.

#### PROPORTION OF CASES ON FARMS HIGH

Outside of the city of Chicago, 155 cases out of a total of 429, or 36.1 per cent developed in strictly rural territory, on farms. The proportion of cases of this disease on farms appears to be much greater than is common to other communicable diseases. On about 12 per cent of the premises on which cases of poliomyelitis were found, a history of a paralytic affection among fowls was obtained, and such affections (not limber-neck) usually preceded the case of poliomyelitis by about 10 days. In several instances a history of paralytic affections of dogs and cats was related.

The summary of cases in families having more than one child has not yet been completed but a hurried review of the epidemiological reports show that an extremely small proportion of the affected families develop more than one case. In 50 families having a total of 117 children under 16 years of age, only 4 families (each having but two children) had more than one case of the disease.

#### CHILDREN WORST SUFFERERS—ADULTS NOT IMMUNE

A tabulation of the cases by ages shows:

7.1 per cent of cases under	1 year.
20.0 per cent of cases under	2 years.

38.3	per cent of cases under 3 years.
53.4	per cent of cases under 4 years.
63.5	per cent of cases under 5 years.
70.6	per cent of cases under 6 years.
77.4	per cent of cases under 7 years.
90.1	per cent of cases under 12 years.
95.2	per cent of cases under 16 years.

From the preceding table it will be seen that 77.4 per cent of the reported cases were among children under 7 years of age and 90.1 per cent were among children 12 years of age. It was children of these ages that were excluded from schools—those under 7 years being excluded until October 2 throughout the State; those under 12 years being excluded from schools in “restricted areas” until such times as conditions warranted modification of the restrictions.

That adults are not immune from attacks of this disease is fully borne out by developments in this outbreak in Illinois. Since July 1, 14 cases have been reported among persons over 20 years of age, with one death, the fatal case being that in a man 42 years of age, a banker residing at Atwood, Illinois.

DISEASE NOW SUBSIDING RAPIDLY

The following is a summary of the reported cases by date of onset of the disease, rather than by date reported, as in many instances reports are considerably delayed:

Reported cases by date of onset. (All reported since July 1, 1916.)

Week ended—		Week ended—	
May 20.....	1	July 22.....	37
May 27.....	2	July 29.....	44
June 3.....	1	August 5.....	56
June 10.....	0	August 12.....	77
June 17.....	2	August 19.....	73
June 24.....	10	August 26.....	68
July 1.....	12	September 2.....	63
July 8.....	19	September 9.....	78
July 15.....	27	September 16.....	58
		September 23.....	20

From the above it will be seen that the disease reached its maximum prevalence during the week ended September 9, and that since that time it has subsided rapidly.

At the time of writing this review the situation has so improved as to warrant the state health authorities to raise all restrictions from the restricted areas, excepting that in the vicinity of Casey in Clark county.

ORGANIZE TO FIGHT RETURN NEXT SUMMER

Health authorities of the Central States having knowledge of the usual developments of this disease when it once starts to sweep the country, are expecting a return visitation next summer at which time its development in real epidemic proportions and with a virulency approaching the passing epidemic in New York, would occasion no surprise.

In anticipation of such developments, the Illinois state health authorities are perfecting plans for a number of health conferences at different points in the state during the winter months, the object being to give the medical profession, health officials and the public generally the advantage of all the latest knowledge relating to this disease and to promote the development of more efficient health organization in our smaller cities and towns and in the rural districts, to the end that Illinois may be in the best possible posi-

tion to combat any threatened invasion of the disease next summer.

These health conferences will be held at some eight different points and the programs of each will include talks and lectures by those who are best qualified to speak with authority. Present plans contemplate bringing several medical experts who were most intimately associated with the recent Eastern outbreak to address these conferences. The first of these conferences will be held in November.

DISTRICT HEALTH CONFERENCES PLANNED.

An important part of the plan of the State Board of Health, in dividing the state into sanitary districts and in placing a full-time medical health officer in charge of each, was that there should be held at frequent intervals in each district conferences of health officers. At these conferences it was proposed that the sanitary and health problems peculiar to the districts should be discussed and that schools of instruction should be conducted in which competent authorities would take up the practical application of modern preventive medicine.

It is now announced that the first of these district conferences will be held within a very few weeks, and that a conference will be held in each district during the late fall and early winter.

The very general opinion that infantile paralysis will be a serious problem in Illinois during the coming summer has decided the State Board of Health to make this disease the subject for special consideration and expert instruction at the first district conferences. As a result of these meetings, it is hoped that the State Board and the local health officers will come closely together on a campaign of disease prevention so well organized in character that it may prove most effective in the future.

Infantile paralysis will not be the only subject considered, however. Practically every phase of preventive medicine as applied to the smaller cities and rural communities will be included in the programs.

The meetings will be held in the cities most centrally located and most available in each district.

NEW STATE LABORATORY ESTABLISHED.

A new branch laboratory of the State Board of Health for the diagnosis of diphtheria has been established at Galesburg and will be known as the West State Laboratory. This laboratory will serve the counties of Rock Island, Henry, Bureau, La Salle, Putnam, Marshall, Starke, Peoria, Knox, Fulton, Schuyler, McDonough, Warren, Mercer, Henderson, Hancock and Adams.

In addition to the central laboratory at Springfield, branch laboratories are now established at Mount Vernon, Chicago and Urbana.

CUMBERLAND COUNTY SANITARY SURVEY.

An investigation which promises to set the pace in rural sanitation not only in Illinois but throughout



the nation, is now being carried on in Cumberland County through the joint efforts of the United States Public Health Service and the Illinois State Board of Health. The work of the sanitary survey is being directed by Surgeon L. L. Lumsden of the Public Health Service, while serving under him are four assistant surgeons of the Public Health Service and four representatives of the State Board of Health.

The survey is undertaken for two purposes: one to secure accurate and detailed information on the general sanitary conditions of the average mid-western rural community to serve as a basis for other community work, and, second, to determine to what extent sanitary reform may be accomplished in the communities being surveyed.

The work has been undertaken upon purely educational lines. No effort is being made to exercise police power by either of the organizations interested. Meetings have been held in most of the communities and, as far as possible, the people have been interested in the aims of the survey and in the possibilities of sanitary improvement in their own communities. These meetings were popular in character and were usually enlivened with music.

A special effort has been made to work in close touch and harmony with local health officers and other public officials, so that the work, once started, will be satisfactorily continued.

It has been recognized by sanitarians that the insanitary privy is one of the most definite menaces to the health of small towns and rural communities and the privy problem of Cumberland County has been approached in a most practical way. Plans are available whereby sanitary privies may be constructed at a cost of \$3.50 up and every carpenter in the county has been instructed as to the details of erecting these buildings.

One of the immediate results of the Cumberland County survey was to be seen in the county fair held this fall. A health exhibit, furnished by the State Board of Health, was the center of interest; but, what is most interesting, the sanitary condition of the fair grounds was better than ever noted in that section before. A United States Public Health Service representative, in reporting upon the fair, said: "The sanitary conditions at the fair grounds were excellent. They constructed two large sanitary privies, one for men and one for women. All foodstuffs sold on the grounds were protected from flies and dust and kept in a cleanly manner."

Since every home in the county is being visited by the surveyors, who invariably assume the attitude of wishing to help the householder in bettering the conditions of his place, it is believed that improvements in sanitary arrangements are already to be found in the majority of premises.

---

#### SURVEY OF CHAMPAIGN AND URBANA.

Plans are practically completed for a community survey of the cities of Champaign and Urbana, which

will be carried out by the various local agencies in cooperation with the State Board of Health.

The organizations which have agreed to take part in this survey are: The health departments of Champaign, of Urbana and of the University of Illinois; the Champaign County Anti-Tuberculosis League, the Department of Dairy Bacteriology of the State University, the women's clubs of Urbana and Champaign, the State Water Survey and the office of the dean of men of the University, which will furnish sociologic and pre-medical students to carry out the work of investigation.

---

#### TYPHOID FEVER IN ELGIN.

The epidemic of typhoid fever in Elgin, reported in these pages last month, and which had its origin in the double water supply of the Elgin Watch Company, has numbered about 195 cases of the disease up to this time.

After the source of infection had been pointed out by Dr. A. L. Mann and confirmed by representatives of the State Board of Health, the watch company took active steps to abate the epidemic. The State Board of Health has had a corps of representatives on the ground almost continuously, their efforts being particularly directed to the prevention of secondary cases. Education was carried into every home in which a patient was confined, and up to this time there have been practically no secondary cases except in the homes of two families, in one of which three secondary cases developed and in the other five. Both of these families were Christian Scientists and refused to call a physician or to be guided by medical advice.

Such expensive lessons as Elgin is experiencing occasionally result in the lasting benefit which comes of the establishment of an efficient and competent health department, and the State Board of Health is now cooperating with the Elgin Medical Society in an effort to secure a medical health officer and to obtain the passage of some much needed public health and sanitary ordinances.

Commission form of government is generally regarded as an advanced and progressive form of municipal control; but the tendency of cities under this modern form of government to regard lightly the health needs of the people has been commented upon by the public press throughout the country, and Elgin has been cited as an example.

---

#### TIME OF FILING COUNTY SANITARIUM PETITIONS.

On account of the action of the Board of Supervisors of one Illinois county in refusing to place the county tuberculosis sanitarium on the ballot for the fall election on account of the fact that the petition had not been filed more than sixty days before the election, the attorney-general has issued an opinion on the question, in which he holds that the action of the Board of Supervisors in this case was unsound.

According to the opinion of the attorney-general, the Board of Supervisors doubtless confused the law by assuming that the county sanitarium proposition was submitted as "a question of public policy." The law providing for referendum on questions of public policy specifies that the petition must be filed at least sixty days before the election. The county sanitarium law, however, has no such provision, and the Board of Supervisors is compelled to submit the question on the ballot, provided the petition is filed in time for the ordinary notice of election, which, under the law, the county clerk must issue within thirty days of the election.

Hence, boards of supervisors may not legally refuse to submit the county sanitarium proposition if the petitions were filed at the time of their September meetings.

#### ILLINOIS HEALTH NOTES.

The very early appearance of considerable numbers of cases of smallpox indicates that the disease will be widely prevalent during the coming winter.

The health exhibit of the Illinois State Board of Health at the state fair was larger than in any years past, and contained many new features. Among the newer additions to the exhibit was a moving picture house, large enough to accommodate several hundred people, where several films devoted to health subjects were shown and brief health talks were given.

The September *Health News*, the official organ of the State Board of Health, is devoted to county tuberculosis sanatoria and their need in Illinois. Thousands of copies of this number of the *Health News* have been requested for use in the seven or eight counties which will vote on the county sanitarium this fall.

## THE ONLY WINNER YET



THE BELLIGERENTS ARE BEGINNING TO SEE IT.



## Auto Sparks and Kicks

### KEROSENE A PROBABLE FUEL OF THE NEAR FUTURE.

Kerosene, owing to its cheapness and the large number of heat units per pound contained, would be an ideal fuel if it were not for the fact that it is not sufficiently volatile to start an engine with the ordinary carburetor. Kerosene contains 22,000 heat units per pound, while gasoline contains only 19,200 units. If suitable carburetors are devised, no essential change will have to be made in the present type of engine for its use, and at the same time more miles per gallon can be obtained than with gasoline.

Disastrous fires are sometimes caused, in fact, very often, by backfiring through the carburetor, and if a pool of gasoline is present under the carburetor or in the underpan, it is very difficult to save the car. In case of a backfire followed by flames from burning gasoline under the carburetor, the best thing to do is to instantly crank the motor as rapidly as possible, so that it will start, thus drawing the flame back into the carburetor before it has time to melt the connections to the carburetor. A little sand or dirt from the road is then, as a rule, sufficient to extinguish the burning pool which is left.—*Auto Trade Journal*.

### BRIGHTENING TIRES WITH STOVE POLISH.

A good alternative to the white paint often used to brighten up tires is said to be ordinary black-lead stove polish well rubbed on when the tire is clean. The black, slippery surface is neat in appearance, does not show dirt as quickly as the white and is more durable.

Oil economy, which has never entered the minds of many makers, will be forced upon them in a few years, just as fuel economy is now being forced upon the foreign manufacturer.—*The Automobile*.

### CARELESS OMISSION.

A "monkey-wrench" mechanic will often omit placing cotter pins or retaining wires in the crown nuts in the transmission case or differential housing. Should one of these nuts shake off it will more than likely get into the gear mesh and break up the whole mechanism.

### THAT CAR.

He owned a handsome touring car,  
To ride in it was heaven,  
He ran across a piece of glass—  
Bill—\$14.97.

He took his friends out for a ride,  
'Twas good to be alive,  
The carburetor sprang a leak,  
Bill—\$40.95.

He started on a little tour,  
The finest sort of fun,  
He stopped too quick and stripped his gears,  
Bill—\$90.51.

He took his wife down-town to shop,  
To save carfare was great,  
He jammed into a hitching post,  
Bill—\$278.

He spent all of the coin he had,  
And then in anguish cried:  
"I'll put a mortgage on the house  
And take just one more ride."

—Exchange.

### ONE LICENSE FOR ALL THE STATES.

A bill has recently been introduced in the House of Representatives by Mr. Adamson, chairman of the Interstate and Foreign Commerce Committee, providing that any operator of a self-propelled vehicle shall not be required to take out more than one license, and that it shall be recognized in all sections of the country.—*Auto Trade Jour.*

### OIL FOR BALL BEARINGS.

In very rapid moving ball bearings common lubricating oil is best. In slow-moving bearings semi-hard graphite grease is best.

### A CONVENIENT BRASS POLISH.

An old piece of gunny sack will polish brass work very nicely.

### TESTING FOR A "SHORT."

When the switch is open, yet sparks are seen upon disconnecting and touching lead wires, there is a "short" somewhere along the line.

By making the test at different places the location can be determined.

### A SIMPLE OIL TEST.

E. T. G.: In a recent issue of the columns you gave a simple method of determining the presence of acid in oils. Is there any equally simple test by which I may determine the comparative lubricating value of two different grades of oil?

A fairly reliable method consists in placing a drop of each of the two kinds to be tested side by side on a plate of glass, and observing the length of time that is required for each drop to evaporate or dry up, after it has been distributed over the plate by tipping the glass. The inferior oil will dry or gum much more quickly than will that of the better grade. This also provides a simple method of determining the comparative weight or body of two kinds of oil.

### DETECTING ACID IN OIL.

O. A. P.: Are there not simple tests by which I may determine whether the oil that I am using contains a sufficient amount of acid to injure the bearings of my car?

It is said that the presence of acid may be detected by hammering a piece of sheet copper to the form of a shallow dish and therein placing some of the oil that it is desired to test. If acid is present, verdigris will form on the copper, after the oil has been left for a few hours.

## Society Proceedings

### IROQUOIS-FORD COUNTY.

The regular quarterly dinner and meeting of the Iroquois-Ford Medical Society was held at the New Gibson Hotel at Gibson City, September 5, 1916.

After partaking of a fine dinner and social smoke, the meeting was called to order by Dr. O. O. Hall, vice-president, the president being absent. A short prayer was offered by Dr. Hewins, followed by a symposium on poliomyelitis.

The first paper was read by Dr. Horace Gibson of Sheldon, Ill.

Dr. Hewins of Loda, Ill., gave a report of a case, with remarks on the same.

Dr. C. S. Nelson, Springfield, councilor for our district, favored the society with a very valuable paper.

The various papers were discussed by Drs. Wylie, Fuller, Lane, Cunningham, Shawl, Cottingham, and others.

On motion, a unanimous vote of thanks was tendered Dr. Nelson for favoring us with his very interesting paper.

On motion, the by-laws were suspended and Dr. M. E. C. Peterson was elected to membership in our society. Twenty members were present.

D. W. MILLER, Secretary.

## Personals

Dr. T. C. Hays, of Canton, suffered a fractured rib in an auto collision recently.

Dr. J. H. Stealy announced the reopening of the Freeport General Hospital recently.

Dr. E. M. Byers, recently of Buda and Kewanee, is resuming practice in Belvidere.

Dr. Charles F. Lynch, Chicago, has been appointed city health officer of Lansing, Mich.

Dr. Ira O. Paul, Winnebago, announces his candidacy for coroner of Winnebago county.

Dr. Charles C. Peck, Harvard, is a candidate for renomination as coroner of McHenry county.

Dr. Christian B. Luginbuhl has been appointed surgical attaché to the American Legation, Berlin.

Dr. G. N. Manning, of Garden Prairie, has retired and sold his practice to Dr. M. L. Hartman of Rockford.

Dr. George E. Bushnell, Rochelle, is said to be seriously ill, twenty business men offering blood for transfusion.

Dr. P. S. Winner, physician, has been transferred from the Watertown to the Chicago State Hospital, Dunning.

Dr. John J. Fyke completed a half century of practice at Odin, August 24, and was presented with a silver loving cup.

Dr. and Mrs. Alex. F. Stevenson, Chicago, have returned from a two months' motor trip along the Atlantic coast.

Dr. Everett D. Rodgers, a retired physician of Chicago, claims an attempt to blackmail him was made by a former maid.

Dr. G. M. Lisor, physician, has been transferred from the Chicago State Hospital to the Watertown State Hospital.

Dr. S. C. Andrus, Rockford, has been appointed local surgeon for the Burlington road to succeed the late Dr. W. R. Franklin.

Dr. H. W. Moore, author of "The Defective," a movie play, denies that his play is written about Dr. Haiselden and the baby Bollinger case.

Dr. William M. Hanna, Aurora, was elected surgeon-general of the Grand Army of the Republic at its recent encampment in Kansas City.

Dr. Sidney D. Jones has been placed in charge of the Fort Dodge (Iowa) Clinical and Roentgen-



Ray Laboratory, succeeding Dr. Thomas H. Glenn.

Drs. Seizaburo Okada and Waichiro Okada, of the Imperial University of Japan, visited the health department and hospitals of Chicago recently.

Dr. John W. Emmons, of Rock Grove, has bought the practice of Dr. G. W. Markley of Poplar Grove. Dr. Markley has moved to Belvidere.

Dr. C. D. Wilkins, formerly in charge of the Charity Hospital of New Orleans, has been appointed superintendent of Michael Reese Hospital, Chicago.

Dr. L. C. D. Halstead, of St. Luke's Hospital, Chicago, has been requested to take charge of a base hospital by the surgeon-general of the French military organization.

Dr. Charles E. Crawford, Rockford, was elected physician of the grand lodge of the Order of Sons of St. George at its annual meeting held in Waterloo, Iowa, recently.

Dr. Herman Adler of Boston, as agent of the Rockefeller foundation, has begun a survey of the methods of Chicago and Cook county in handling insanity and other mental infirmities.

Dr. Ernest M. Ewers, Apple River, recently of San Juan, P. R., sails from San Francisco, October 7, to take up work in a hospital in the Orient under the Presbyterian Board of Foreign Missions.

Dr. Harry W. Ackmann, Rockford, has been appointed physician for the Rockford City Traction Company and the Rockford and Interurban Company, succeeding the late Dr. William R. Franklin.

Dr. R. S. Manley, of Sadorus, has leased his office and residence to Dr. J. E. Armstrong of Centralia, who will take charge of his practice while Dr. Manley regains his health on his farm in Alabama.

Dr. V. E. Dudman has been appointed director of student health and assistant professor of hygiene at Northwestern University. He will advise the students on health matters free of expense to them.

Dr. George W. Crile, professor of surgery in the Western Reserve University, Cleveland, delivered a lecture on August 21 to the graduates

of the medical department of the University of Illinois, on "Exhaustion and Restoration."

Dr. Jesse R. Gerstley returns to Chicago, October 1, and will resume the practice of pediatrics. During the last three months Dr. Gerstley has been conducting the new post-graduate course in pediatrics offered by the University of North Carolina.

Dr. R. R. Ferguson, 4175 Irving Park boulevard, Chicago, is desirous of any information or data on the following: "Is nitrous oxide oxygen gas in labor dangerous to babies? Complete statistics of the United States." Will our readers, who have had experience with this anesthesia in labor kindly give Dr. Ferguson the information asked? He will appreciate it greatly.

---

### News Notes

---

—Dr. J. Clarence Webster, of Chicago, was operated on for gallstones at Royal Victoria Hospital, Montreal, recently.

—The next meeting of the Illinois State Hospitals' Medical Association will be held October 26 and 27, at the Peoria State Hospital.

—The Chicago police recently raided the office of an alleged abortion quack (not a physician) and found a list of nearly 1,500 names of women he had dealings with.

—Dr. Walter G. DuFour is moving from Chenoa to Batavia, Ill., where he takes up the practice of Dr. H. H. Whitten. Dr. Whitten, we understand, is moving to Peoria.

—The John B. Murphy Memorial Association has been incorporated at Springfield by Drs. W. A. Evans, James E. Keefe, Allen B. Kanavel, Franklin H. Martin and Frank Crozier.

—Dr. Arthur Dean Bevan, who was the victim of porch climbers at his Lake Forest home, has offered a reward for the arrest of the burglars and the recovery of the jewelry taken.

—The matter of building county tuberculosis hospitals comes before the voters of Ogle, Adams, Morgan, Livingston, La Salle, Rock Island, Greene and Kane counties at the November elections.

—The Winnebago county board found that Dr. H. A. Pattison, the county physician, had rendered services worth \$2,500 for his salary of

\$800 and one member even proposed to increase the salary to \$1,000.

—An interesting observation on the etiology of infantile paralysis is the alleged claim that no cases have occurred among the 2,500 babies fed daily with the pasteurized milk from the depots supported by Mr. Nathan Straus in New York City.

—Dr. Carl O. Young, owner and chief surgeon of the Washington Park Hospital, who is supposed to be interned by the British authorities while on the way to Sweden with his two sons, will hear in due time that his wife has secured a court order restraining him from disposing of stock in the hospital to secure her claims for alimony.

—The next examination for appointment in the Medical Corps of the Navy will be held on or about October 23, at Great Lakes, Chicago, and other places throughout the country. Full particulars may be secured by addressing the Surgeon-General of the Navy, Washington, D. C.

—The twenty-first annual state conference of Charities and Correction will be held in Alton, October 20 to 22. In connection with this conference the Illinois Association for the Prevention of Tuberculosis, the State Association of County Home Superintendents and the State Association of Probation Officers will hold meetings.

—The circular issued by the U. S. Census Bureau showing that the death rate of New York City declined 26.8 per cent in fifteen years compared with a reduction of only 1.4 per cent in Chicago's rate, simply disclosed the fact that Chicago's rate was below 14 per thousand in 1901, 1904 and 1905, while New York's rate was above 19.

—Dr. Fred A. Besley has been appointed to the chair in surgery at Northwestern University Medical School as successor to Dr. Murphy. The surgical staff at Mercy Hospital has been reorganized by the appointment of Dr. E. Wyllys Andrews as chief of staff, and Drs. John F. Golden, F. A. Besley and W. E. Morgan as attending surgeons.

—The Cook County Commissioners seem to think that the services of medical experts capable of passing on the cases of the feeble-minded in the county court are not worth more than five dollars a day, no matter how many cases are before the court. County Judge Scully, however,

advised the commissioners to compromise the claims of physicians which were much higher in several cases.

—The large number of infections of various kinds attributed to bathing in polluted lake water in Chicago the past summer has stimulated a comprehensive inquiry into the sources of pollution and remedies for the condition. The following men have been appointed a commission of investigation: The engineers, Isham Randolph, George G. Earl, Lyman E. Cooley and Langdon Pearce of the sanitary district; W. A. Nelson and W. R. Matthews of the bureau of sewers; Cicero D. Mill of the board of local improvements, and Frank R. Sadler, chief engineer of the 68th street pumping station. The physician is Dr. Herman N. Bundesen of the health department.

---

## Marriages

GILBERT J. WHITE, M. D., to Mrs. Ada Arends, both of Chicago, August 22.

FRANK A. ANDERSON, M. D., Chicago, to Miss Florence Steiner of Chicago, August 19.

JACK RALPH LAVIERI, M. D., to Miss Edna Cora Gibbs, both of Chicago, recently.

ALEXANDER AARON GOLDSMITH, M. D., to Miss Corinne Rosenfeld, both of Chicago, September 5.

MARTIN HENRY MERBITZ, M. D., Chicago, to Miss Norma Helen Irasek of Milwaukee, May 17.

CHARLES ALBERT ROBB, M. D., Rock Island, Ill., to Miss Marie Metz of Chicago, September 11.

ARTHUR CALDWELL GILLAM, M. D., to Miss Anna Suzanna Maurer, both of Chicago, September 14.

ELLIS BENJAMIN FREILICH, M. D., to Miss Mildred Kamermann, both of Chicago, about September 6.

CARL DAVIS RENDER, M. D., to Miss Dorothy June Antis, both of Oak Park, Ill., in Milwaukee, November 1.

THOMAS GOODELL CHARLES, M. D., Beardstown, Ill., to Miss Nita Robertson of Virginia, Ill., September 12.

RALSTON IRVING LEWIS, M. D., Glen Ellyn, Ill., to Miss Virginia Folkes, at Western Springs, Ill., about August 30.



WILLIAM W. PERDUE, M. D., Mobile, Ala., to Miss Eleanor C. Bartlett of Chicago, in New York City, September 5.

## Deaths

NATHAN N. E. WOOD, M. D., Chicago; Bennett Medical College, Chicago, 1878; aged 64; died at his home, September 15.

OLIVER JAY RUTH, M. D., Colchester, Ill.; Keokuk (Iowa) Medical College, 1891; aged 49; formerly a member of the Illinois State Medical Society; died in Winterset, Iowa, August 19, from intestinal obstruction.

ELIJAH C. TROUTT, M. D., Birds, Ill.; St. Louis College of Physicians and Surgeons, 1907; aged 31; formerly a Fellow of the American Medical Association; died at his home, August 11, from progressive muscular atrophy.

JAMES H. ROSE, M. D., Harrisburg, Ill.; Medical College of Evansville, Ind., 1878; aged 68; a member of the Illinois State Medical Society; and for thirty years a practitioner of Harrisburg; died at his home, August 17, from heart disease.

WILLIAM RILEY FRANKLIN, M. D., Rockford, Ill.; Chicago Homeopathic Medical College, 1883; aged 57; a Fellow of the American Medical Association; a member of the consulting staff of the Rockford City Hospital, local surgeon of the Burlington System and the Rockford Interurban Railway; was drowned, while swimming at Michillinda, Mich., August 19.

GEORGE WHITING ROSS, M. D., Carrollton, Ill.; College of Physicians and Surgeons in the City of New York, 1879; aged 59; a Fellow of the American Medical Association and formerly president of the Western Illinois Medical and Surgical Society and Green County Medical Society, and trustee of the Central Illinois State Hospital for the Insane; died August 31, from nephritis.

WILLIAM KELLER, M. D., Princeton, Ill.; St. Louis College of Physicians and Surgeons, 1884; aged 73; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society; a graduate of medicine in the University of Tübingen, Germany, about 1865; surgeon in the Prussian army during war between Germany and Austria; died at his home,

September 7, from septic pneumonia, following a carbuncle of the leg.

## NEW AND NON-OFFICIAL REMEDIES.

During September the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

The Abbott Laboratories: Chlorazene; Chlorazene Tablets, 4.6 grains.

Merck & Company: Benzidine—Merck (for blood test).

E. R. Squibb & Sons: Thromboplastin—Squibb.

Solution of Hypophysis—Squibb.—A sterilized aqueous solution of the water-soluble active principles of the posterior lobe of the pituitary bodies of cattle, free from chemical preservatives and physiologically standardized. It has the properties of the pituitary gland, as described in New and Non-official Remedies, 1916. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 2, 1916, p. 745).

Benzidine.—In medical practice benzidine is used for the detection of occult blood. In the presence of hydrogen peroxid and acetic acid, benzidine is changed to a deep purple compound by the action of blood. The test is said to detect blood in a dilution of 1 in 300,000.

Benzidine—Merck (For Blood Test).—This complies with the standards prescribed for benzidine, N. N. R. Merck & Co., New York (*Jour. A. M. A.*, Sept. 16, 1916, p. 879).

Occult Blood Test (Dudley Roberts).—This consists of tablets, each containing 5 grains of a trituration of benzidine, 1 part, and sodium perborate, 20 parts, and glacial acetic acid (supplied in boxes containing 100 tablets in vials, and a bottle of glacial acetic acid). A tablet is treated with a weak solution of the material to be tested and a drop of acetic acid added, a greenish-blue color indicates the presence of blood. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 16, 1916, p. 879).

Mercurial Oil.—A mixture containing from 40 to 50 per cent. of metallic mercury in an oily base. The mercury is in a finely divided state and of a consistence which permits its intramuscular injection by means of a proper syringe at room temperature. The degree of subdivision of the mercury should be indicated for each brand of this product. Mercurial oil is used as a means of obtaining the systemic effects of mercury. Cumulative effects should be carefully watched for.

Mercurial Oil—National Pathological Laboratory.—A mixture of equal weights of mercury and lanolin obtained by triturating the constituents until mercury globules are no longer microscopically visible. It is marketed in graduated syringes ready for use and containing 2 Cc. National Pathological Laboratories, Chicago (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

Liquid Petroleum—Squibb, Heavy (Californian).—It is made from Californian petroleum and is claimed to be composed chiefly of hydrocarbons of the naphthene series. A brand of liquid petrolatum complying with the U. S. P. standards for liquid petrolatum and

claimed to be superior to liquid petrolatum, U. S. P. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

**Thromboplastin**—Squibb.—A solution of brain extract, complying with the standards for solution brain extract, N. N. R. It is marketed in 20 Cc. vials. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

**Chlorazene**.—Chlorazene (sodium para-toluenesulphochloramine) is an active germicide, acting much like hypochlorites, but being less irritating. Like the hypochlorites, it has the advantage over mercuric chloride, zinc chloride, etc., in that it does not coagulate or precipitate proteins, such as blood serum. Chlorazene is reported to be practically non-toxic. The Abbott Laboratories, Chicago, Ill. (*Jour. A. M. A.*, Sept. 30, 1916, p. 1021).

## Book Notices

**THE CLINICS OF JOHN B. MURPHY, M. D., AT MERCY HOSPITAL, CHICAGO.** Volume V, Number 4 (August, 1916). Octavo of 222 pages, 59 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Published bi-monthly. Price per year: Paper, \$8.00; cloth, \$12.00.

There are rather more topics discussed in this number than is usual. Among the most interesting are: Melanotic Neoplasm in Digestive Muscle; Mixed Tumor of Parotid Salivary Gland; Bony Ankylosis of Temporomandibular Joint; Retraction of Eyeball; Tri-facial Neuralgia; Traumatic Recurrent Subluxation of Fourth Lumbar Vertebra; Tuberculosis of Spine (Three Cases); Fracture of Humerus (Anatomic Neck) with Loss of Head; Fracture of Humerus (Condyles) and Radius (Head); Ancient T-Fracture of Humerus; Ancient Fracture of Elbow-joint with Ankylosis; Postscarlatinal Arthritis of Elbow; Tuberculosis of Elbow; Ancient Ununited Fracture of Radius; Ancient Luxation of Metacarpophalangeal Joint; Occult Carcinoma of Breast with Metastases to Cervical and Mediastinal Lymph-Nodes, Giving Pressure Signs; Sarcoma of Sternum; Biliary Calculus Impacted at Ampulla of Vater; Contracted Gall-Bladder; Suppurative Streptococcal Cellulitis; Ureteral Calculus; Ancient Fracture of Rim of Acetabulum, with Displacement of Head of Femur; Luxation of Hip-joint (Two Cases); Extensive Trochanteric Bursitis; Bone-infection Metastatic to Furuncles (Two Cases).

This number is of the usual style, and will prove more interesting than some other numbers.

**A MANUAL OF OTOLGY. FOR STUDENTS AND PRACTITIONERS.** By Charles Edwin Perkins, M. D., F. A. C. S., Professor of Clinical Otolgy in New York University and Bellevue Hospital Medical College; Associate Aural Surgeon to St. Luke's Hospital; Assistant Aural Surgeon, New York Eye and Ear Infirmary; Fellow, American Otological Society, New York Otological Society, New York

Academy of Medicine, etc. 12mo, 445 pages, with 120 engravings. Cloth, \$3.00, net.

Based upon the author's many years of experience as a teacher of otology to both students and physicians, it is replete with the newest observations in this special branch of medicine. Being well fitted to his task, the writer has fulfilled that which is expected of him, namely, a comprehensive but not lengthy exposition of the modern practice of otology.

The book is well adapted to the student, general practitioner and specialist in diseases of the ear. Considerable prominence is given to the proper examination of the tympanic membrane, color, luster, position, integrity and structure being clearly presented, so that one can form a systematic method in diagnosis. A valuable feature is the expounding of the relationship of the Chorda tympani nerve to facial paralysis and middle ear disease, based upon the author's personal observations. It is a thoroughly practical book on otology.

**MEDICAL AND SURGICAL REPORTS OF THE EPISCOPAL HOSPITAL.** Hospital of the Protestant Episcopal Church in Philadelphia. Volume III. Press of Wm. J. Dornan. Philadelphia. 1915.

An unusually well presented volume of reports of interesting cases, based on the experience of the authors during their service. It is very well illustrated. Reports of this character should be used as a type for other hospitals, and would prove extremely valuable to the general profession.

**DISEASES OF CHILDREN.** By Edwin E. Graham, M. D., Professor of Diseases of Children, Jefferson Medical College, Philadelphia; Pediatricist to the Jefferson Hospital and to the Philadelphia Hospital; Consulting Pediatricist to the Training School for Feeble-minded, Vineland, N. J.; Member of the American Pediatric Society, etc. Octavo, 902 pages, with 89 engravings and 4 plates. Cloth, \$6.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

The author has succeeded in his efforts to produce a modern work on the diseases of children. Much attention and considerable space have been devoted to symptoms, diagnosis and especially treatment. The subjects are carefully presented, the most common and important being given the greatest attention, while the rarer and unimportant have been presented only with the known and essential facts. No attempt has been made to present theories, only known facts, proven by time and experience, being considered.

The subject of Infant Feeding is thoroughly up-to-date, the latest approved methods being given. Some of the noteworthy items include Food Injuries, Chronic Constipation, Pylorospasm, and Pyloric Stenosis. Infant Mortality, Heredity and Environment, Puberty, Fresh Air, Disease of the Liver, Spleen and Thymus Gland, Infantile Paralysis, Diphtheria, and Pertussis are articles that are given in detail. As a whole, it is a very commendable book.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXX

CHICAGO, ILL., NOVEMBER, 1916

No. 5

## Original Articles

### SOME FUNDAMENTAL CAUSES OF DISEASE,\*

DEFECTIVE HUMAN PLUMBING.

WILLIAM SEAMAN BAINBRIDGE, M. D.,  
NEW YORK CITY, N. Y.

The history of the search for the causes of disease is commensurate with the history of the human race. The savage of the primeval forest who sought to cure the aches and pains, agues and fevers, of his tribesmen with root and herb, tooth and toenail, no doubt had his own theories as to the cause or causes of the physical ailments which he endeavored to alleviate. The incantations of the "voodoo doctors" of all ages had their origin in a theory, however crude or vague, and as far afield of the origin of the disease which he sought to frighten away.

As civilization advanced, and the history of medicine began to assume a more authentic character than the previous word-of-mouth records, it became largely a chronicle of the long-continued struggle to discover *causes*. Man has always sought to know the *reason why*. When, therefore, a plausible explanation of all physical ills was proposed it was accepted without question and advocated until another more plausible theory was offered.

Thus during many centuries of the earliest period of recorded medical history one theory held sway for more than a thousand years. This was the so-called "*humoral*" or *bile* theory, often alluded to as the Galenic theory of disease. Every physical ailment was amenable to diagnosis in the minds of the early physicians, as to outcome of perversion of function of one or more of the four humors—blood, mucus, yellow bile and black bile—to which so much importance was attached by these observers. And so, during the periods made famous by Hippocrates, Celsus, Galen and their followers, who left their impress upon the

primitive records of medicine, the world was content to accept this humoral theory of the cause of disease. So completely had this hypothesis been accepted that a profound sensation was created among those who gave thought to such matters when Paracelsus, the Bombast (so called because of his over-weening self-satisfaction), presumed to cast doubt upon this time-honored explanation of the origin of disease.

Once doubt had been definitely entertained concerning the correctness of the theory, its overthrow was as swift and complete as its sway had been persistent and absolute. A hundred years after the views of Paracelsus had been promulgated scarcely an advocate of the humoral theory could be found.

The medical world, finding itself thus ruthlessly overcast by a sea of doubt, followed first one pilot and then another, in the search for an etiologic haven. The effort entailed by the search, however, was not without results, which came with relative rapidity.

The discovery of the circulation of the blood, the first great step in the progress toward the ultimate solution of physical ills, altered the older conceptions of anatomy and physiology, and placed the *normal* on such a clear eminence that departures into the realm of the *abnormal* were much more plainly notable than ever before. This was of vital importance in the search for the fundamental causes of disease.

The invention and perfection of the microscope, making possible, as it did, the discovery of the cellular character of the body, and revealing, as it likewise did, the hitherto invisible and unsuspected world of bacteriological life, opened new fields of investigation, one after the other, in rapid succession.

The blind acceptance of the four humors was soon replaced by a scientific understanding of the circulatory system and the "animalcules" to which Leeuwenhoek, the Dutch lens-grinder directed attention, were soon metamorphosed into the bacteriological flora which we now recognize as the fundamental cause of so many diseases.

\*Abstract of a lecture, illustrated with many drawings of actual cases, presented at the meeting of the Illinois State Medical Society at Starved Rock, Ill., July 12, 1916.

The germ theory now became the measuring rod, so to speak, by which all, or certainly the larger proportion of diseases, came to be studied. No matter what the symptoms, the effort was made to reduce the cause to terms of germs. One by one the enigmas of the past have yielded to the searchlight of scientific investigation, and the offending bacterium or other parasite, cell or worm or what-not, has been discovered, Bertillonized, as it were, and properly catalogued. Some diseases, notably cancer and infantile paralysis, are still mysterious so far as the fundamental cause is concerned. Other diseases, it is fair to assume, may never be associated with a specific organism as the essential cause. Notable among these are certain disorders of the glands and organs of internal secretion, giving rise to such affections as the different forms of goiter, and to certain abnormalities of mind and morals.

Just what part, if any, germs or other parasites may play in augmenting such affections as have not been definitely traced to a specific origin, cannot be stated at the present time. Study along this line, however, has directed attention more and more to the body cells themselves, as well as to the foreign cells or germs which destroy or vitiate the function of the individual body cells, or groups thereof which we know as organs or tissues, and finally of the body as a whole.

Following this line of investigation two factors have been brought prominently into the foreground (and of these I wish to speak particularly on this occasion): first, *internal secretions*—the so-called *hormones*, which regulate and bring into harmonious action the various functions of the tissues in the interests of physiological life; second, the *pars résistance* of the tissues themselves.

The power of the cells which compose the body to do their work is commensurate with their nutrition and vitality. The resistance of the tissues to the introduction of disease or disturbed function is dependent in very large measure upon the condition of the cells which constitute them. This tissue resistance lies back of, and favors or hinders, the internal secretions in their work of regulating function.

It will be seen, therefore, that these two questions play a most important rôle in the study of

pathological conditions which we call disease, their prevention and their treatment.

Recognizing, therefore, the importance of cellular vitality, the trend of modern research along preventive lines is directed not only against the causative germ, when one is known or suspected to be the provocative agent, but against the products of such organisms, the toxins or poisons which are liberated in the tissues as a result of the activity of these invaders.

This warfare of prevention by elimination is directed not only against the bacterial toxins, but against the tissue toxins as well. The work of Carrel, of the Rockefeller Institute, has shown that tissues may continue to live almost indefinitely, *provided the toxins of the tissues themselves, the products of the activity of the individual cells, be removed*. Thus, when Carrel returns from France and his war activities, he will probably find tissues removed from the body of which they formed a part, and which he left to the care of his assistants when he sailed away, still alive and healthy. Failure to keep such tissues clean, to eliminate the possibility of self-poisoning, would quickly result in their death and decay.

It would seem, therefore, that if a spring of eternal youth or a fountain of everlasting physical life is ever in a measure to be discovered it must provide for the purification of the individual cells, and thus of the body as a whole. For it is essential to health, and even to life, that we get rid not only of the poisons which may be absorbed from without, but we must also rid ourselves of the poisons produced in the very living and being of the cells which constitute our bodies.

In other words, we must help Nature, wherever she needs help, in the elimination of the products of metabolic activity. There is, as I have suggested, abundant evidence to prove that faulty elimination of the products of physiological activity is a fundamental factor in the production of such states of being as facilitate the taking on of disease, if, indeed, it is not itself the essential cause of certain diseases.

In short, the matter resolves itself into a question of body plumbing and sanitation. Our physical house, the body, as well as the temporal house in which the body dwells, must have a proper plumbing system, in order that each individual cell may be kept free from the stagna-



tion and accumulation of the poisons taken into or engendered within the organism.

In this connection there must come to mind the allegorical presentation of defective drainage familiar to those who have seen the play, "The Servant in the House." It will be remembered that the town in the play was beautiful, business was good, the inhabitants were prosperous and seemingly healthy. Outwardly the community was in a most satisfactory condition, but something was essentially wrong. The moral state of this delightful little town was unsatisfactory. In order to overcome this unfortunate moral and spiritual unhealthiness the select men of the town decided to build a fine cathedral in the hope of improving the tone of the community. The great church was built, the bells rang out on Sunday, and the inhabitants flocked to the service. The choir was good, the music was beautiful, and the services were conducted after the manner of the best cathedrals. Apparently all was well. Presently, however, the congregation began to complain of headaches; those who were most persistent and assiduous in their attendance having the severest headaches. The choir was changed; the minister was changed; every effort was put forth not only to render the service attractive, but to prevent the troublesome headaches, which were the invariable accompaniment of attendance upon the services. All these efforts, however, were in vain. The elders finally met in solemn conclave to decide what further steps to take to rectify the trouble. After a good deal of futile conversation, one man suggested that a friend of his should look into the matter. The friend, who was only a drain man, with no education, no gift of speech, and dressed in overalls when he was brought in, happened to know, as he told them, what was the matter with their cathedral. It was a defective drain right under the altar!

As with the cathedral, so with the body—defective drainage is the hidden cause of many ills.

The builders of cathedrals have long recognized the fact that beauties of architecture count for nothing if ventilation and drainage are imperfect. The trend of the times in the matter of house building, whether it be cathedral or skyscraper, palace or bungalow, has been steadily toward improvement in every detail of sanitation. Fortunately for the occupants, the architect is able to forestall the headaches of the allegory,

and the many other physical ills which might result from faulty construction, because he has mastered the principles of sanitary house building, and is able to express his knowledge in brick and mortar. And if perchance, through wear and tear, or unavoidable accident, the plumbing system of a house is rendered inefficient, the same knowledge is quickly brought to bear in the rectification of the trouble. The occupants, by the way, run no risks of sickness from this source, for defects are soon detected and the remedy applied.

Unfortunately, the bodily house is not so easily blueprinted as is the cathedral or the home. Each individual human house is more or less a law unto itself. It does not always come into being in the perfect condition that the house of brick and mortar assumes when the builder has finished his work. And even when the human tenement is initially fit, external and extraneous circumstances all too often combine to render it unfit.

Thus in infancy we find the central drainage system of the bodily house—the alimentary canal—thrown more or less completely out of commission through improper feeding. The "colic" and all the other "upsets" to which the infant, improperly cared for, is prone, often express themselves in later childhood in bad teeth, in defective physical or mental development, or in one or another of the definite diseases.

The drainage system thus early impaired, if left in this defective state, may grow progressively less and less efficient as age advances. A defect which should never have been allowed to exist, and which could have been corrected by very conservative measures if promptly recognized in its beginning, is thus allowed to reach a stage in which to rectify the damage and to prevent further trouble, requires the most radical measures.

There is laid the foundation, then, within this imperfect drainage system, of a state of affairs which may prove to be a fundamental factor in the production of other and more far-reaching abnormal conditions. Vicious circles of action and counteraction are thus set going, the progress and the ultimate outcome of which it is difficult and sometimes impossible to determine.

When, for example, the teeth—the outposts which should guard the great drainage canal of the body—are defective, and the mouth unclean, as it must be when defective teeth are present,

the entire alimentary tract suffers. Digestion is upset, constipation results, or perhaps chronic intestinal stasis ensues.

The first and most obvious preventive measure then is to rectify all defects in the teeth as promptly as possible. Bad teeth act injuriously on the stomach and intestines and these in turn react on the teeth. Moreover, if the teeth are not sound, food cannot be properly masticated and must be imperfectly assimilated. The first step, therefore, and a very important one, in the sanitation of the human body is to put the teeth in a sound state, and the gums and mouth in a clean condition, and to keep them so.

In searching for fundamental causes of disease, however, one must guard against a too close focalization of attention upon one or another source of functional error. While the teeth undoubtedly set going many abnormal processes in the alimentary canal, other possibilities are to be borne in mind. For, according to latter-day investigations, the intestines themselves, through the tiny glandular structures within their walls, are supposed to furnish their own regulators or hormones in the way of one or more internal secretions. It is supposed by some observers, for example, that chronic intestinal stasis—the sluggish, lagging onflow of the contents of the great drainage canal of the body—is caused, in part at least, by perverted function of these intestinal regulators. Here, then, we seem to find another fundamental factor in the production of disease.

It is only within comparatively recent years that our knowledge of the function of the ductless glands and their internal secretions has assumed anything like exactitude. It was not until Brown-Sequard, experimenting with testicular extracts, which he administered to himself and some of his co-workers, gave the cue that the theory of the existence and function of the internal secretions was put to the test of practical application. By the administration of the extracts of certain glands, it was found that the function of the corresponding glands in the individual to whom the extract was given was stimulated to greater or to more nearly normal action. From these experiments has been evolved one of the most promising theories as to the fundamental cause of an important class of maladies, to which I have already directed brief attention.

So important is the rôle attributed to the in-

ternal secretions in the normal exercise of body functions, that some observers have gone so far as to hold that so long as these secretions are generated properly and exercise their regulatory function in normal fashion, all is well with the physical health. When, however, through the abnormal conditions that arise in consequence of defective drainage throughout the body, or as the result of other conditions not determined, the internal secretions are in any way interfered with, the machinery of the body is more or less vitally hindered.

It may be that the evil influences, whatever they are, that interfere with the output of these secretions are conducive to too great a flow of these mysterious fluids; if so, then we have a hyper-activity of certain functions over which the given gland of internal secretion is supposed to exercise its regulatory function. An illustration of the outcome of this state of affairs is seen in exophthalmic goiter, or Graves' disease—systemic goiter, as I prefer to call it—with the bulging eyes, in some cases the enlarged thyroid gland in the neck, the rapid heart beat, the shortness of breath, and the general distressing symptom-complex of this affection.

On the other hand, if too little of the secretion of the thyroid gland is the result of the interference with its function, we have a hypo-activity of certain process, leading to many distressing physical and mental abnormalities, such as excessive fat, congenital idiocy or cretinism, and a number of unfortunate and previously unexplained below-par conditions.

Illustrations of many of these conditions were presented in connection with the Oration on Surgery, which I had the pleasure of delivering before the annual meeting of the Maine State Medical Society, at Poland Springs, Me., on June 9, 1915, report of which was published in the *Maine Medical Journal*, August, 1915.

Just what part the internal secretions play in the production of chronic intestinal stasis, as I have said, has not been determined, but it is fairly certain that another vicious circle is here set in motion. For intestinal stasis, however inaugurated, seems to be, in itself, a fundamental factor in the production of certain diseases.

This condition, to which Sir Arbuthnot Lane, the great surgeon of London, has applied the term "Chronic Intestinal Stasis," is a persistent reten-



tion or retardation of the contents in some part of the intestinal canal, which occurs at certain points of predilection, one of these being in the appendix region. This is not the commonly known condition of sluggishness in the lower bowel designated as constipation, for stasis is often accompanied with the opposite of constipation, namely, diarrhea.

When chronic intestinal stasis occurs, intestinal putrefaction ensues, autointoxication follows, and in the wake of these comes a long train of physical and mental ills, too lengthy to be recounted here. The immediate symptoms, quite naturally, vary with the duration and the intensity of the stasis. Common among them are headache, general malaise, localized pain and tenderness in the abdomen, backache, drowsiness, inability to fix the attention, brown staining of the skin, a lumpy condition of the breasts in females, melancholia, and so on, leading up to absolute mental and physical disability.

According to Lane, this stasis is a fundamental factor in the causation of many diseases.

And so we have here a sort of house-that-Jack-built state of affairs, one ailment growing out of another, this in turn, giving rise to another, and so on, until we get back, no matter which way we turn, to the foundation of all—*defective bodily drainage*, with the alimentary tract playing the role of main conduit.

When intestinal stasis is present, with its concomitants, intestinal putrefaction and autointoxication, it is plain that the drainage canal is not being thoroughly cleared of its contents; that efficient plumbing is called for, and that Nature, the greatest of all plumbers, must be assisted, or the results of interference with her work overcome by whatever radical plumbing measures may be indicated.

Sometimes,—in fact, in the vast majority of cases,—it is possible to inaugurate normal drainage by dietetic, hygienic, and medicinal measures. When the intestinal stasis is of mild degree and of short duration, it is quite possible to overcome it entirely by such conservative means. It is not, therefore, always to be considered as coming within the category of a surgical affection, to be treated only by operative interference. If, however, through neglect or improper treatment, the individual case is no longer amenable to preventive measures, or to the milder

methods of treatment which come within the province of the family physician or the specialist in diseases of the alimentary tract, then the surgeon must be consulted. In many instances conservative surgical procedures will answer. These may consist of cutting bands which have formed about certain portions of the intestine, causing kinks in its walls, and obstruction to the flow of its contents. Sometimes the appendix, through inflammation or other causes, may “hitch up” a contiguous loop of the intestine in such way that it does not drain properly, thus leading to a condition of stasis in this part of the drainage system. Removal of the appendix and straightening out the canal in such cases may restore proper drainage. And so, according to the condition found on opening the abdomen, milder surgical measures may overcome all the difficulty.

Unfortunately, however, some cases have advanced too far for such conservative treatment before relief is definitely sought. In such cases it may be necessary to resort to the more radical procedures for overcoming the long-continued interference with drainage and the resulting pronounced and persistent intestinal stasis. Here it may be necessary to “short-circuit” the drainage system, by what is known as ileocolostomy—the joining of one portion of the canal to another in such way as to give a “short cut” to the onflow of the contents of the bowel. In other cases it is necessary to remove a part of the large bowel by the operation known as colectomy.

The sequence of therapeutic intervention to be borne in mind, then, in connection with chronic intestinal stasis, is: 1. Prevention; 2. Medical, dietetic and hygienic treatment; 3. Conservative surgery; 4. Radical surgery; 5. Post-operative care to prevent recurrence.

The important lesson to impress by what I have said and by the pictures presented is that the bodily mansion requires and deserves at least as careful attention to its sanitary plant as does its temporal dwelling place. Some of the enigmas of disease are being cleared away by the discovery of the fundamental causes thereof; others remain as yet unsolved. The solution of many of these depend in a large measure upon continued effort along the lines which I have endeavored to follow on this occasion.

#### DISCUSSION.

Dr. E. P. Sloan, Bloomington, Illinois: I think we are very fortunate indeed to have Dr. Bainbridge with

us as the invited guest of the day and to have the opportunity of hearing him. He is certainly the greatest man in America on intestinal stasis. He is to this country what Lane is to England. I think his work more practical than Lane's. He has a method that is, so far as I know, original in dealing with the colon, that saves the colon in a large number of the cases on which Lane does colectomies or short circuits. Dr. Bainbridge does colectomies and makes short circuits, but in the great majority of his cases he absolutely relieves without it. He reserves colectomy for the most advanced cases. Some seem to think that all the operative treatment of intestinal stasis amounts to is separation of adhesions; others say "Same as Enteroptosis." Now the fluoroscope and other methods of examination show us many patients with extreme enteroptosis and no intestinal stasis. Some have had gastro-enterostomies, appendectomies, "Lane's Kinks" fixed and Jackson's veils removed, kidneys anchored, adhesions separated and still have intestinal stasis. Some have no symptoms of abdominal trouble but have symptoms of many diseases, not usually related to abdominal trouble. Many such pitiful patients are called hysterics and are not given relief or sympathy as they deserve. The varied manifestations of similar conditions and the varied symptom picture of the same conditions—usually obscured and changed by previous operations and numerous previous treatments—make correct diagnosis and correct treatment a most difficult undertaking. Every case is different from all others, if not in the pathological conditions present, yet different in the symptom picture.

All of us who have been doing abdominal surgery for several years have had some patients who come back, go to others, have various operations and yet are no better. These are the ones that intestinal stasis treatment is relieving. The operation for intestinal stasis includes ascertaining that the rectum and sigmoid are free and patulous—the colon free from kinks and obstructions—if dilated and the sacculations stretched until they are in fact diverticuli, then the colon must be repaired by the Bainbridge method, short circuited or a colectomy done. If the head of the cecum is dilated until it is a pouch it must be repaired, and if rotating around the mesentery it must be anchored. If the ileocecal valve is incompetent it must be repaired, Lane's kinks released, duodenojejunal kinks released; gastro-enterostomy performed if indicated, gall bladder adhesions to duodenum near pylorus must be especially looked after. Then the patient is put in reverse Trendelenburg position and something else may show up at the final inspection that is blocking the intestinal canal.

After seeing some of this work one is impressed with the fact that fixing all but one of the traps, as a plumber would call them, will not suffice. To cure these patients one must remove every obstruction and repair every break in the muscular coat of the bowel.

With experience comes the conclusion that intestinal stasis work is the most difficult, but the most interesting and most satisfactory of any abdominal

work of today. To appreciate fully this work you must see a master like Dr. Bainbridge do it. No one can give you a correct idea of it by description.

## INDIVIDUATION IN THE STUDY OF MENTAL DISORDERS.\*

FRANK P. NORBURY, A. M., M. D.,

JACKSONVILLE, ILL.

Medical Director of the Norbury Sanatorium, Jacksonville, Ill.

In approaching the study of the individuation of patients in the clinical interpretation of mental disorders, we must, first of all, be practical. At least, this application must be made in the sense of giving intelligent consideration to all factors which enter into the problem of the individual. This practical need is to me paramount, even after we have followed a distinct systematic study of the factors, which give us insight concerning the clinical classification of the case under consideration.

We seek all of the determining factors. For this reason, we follow the case method because of its wide application in considering: first, the symptom-complex, upon which we base the clinical classification; second, the life situation, wherein we consider in an intelligent and sympathetic manner all of the social factors, especially environment with its very varied influences, which directly or indirectly, have a bearing upon the case; third and last, but not least, the study of the personality of the patient which is the clue to temperament, character, etc., the weight of which must concern us in the last analysis of our problem.

It is evident, therefore, to be useful, to be practical, to be scientific in the study of the individual and to have a real creative interest in his welfare, there must be training and accumulated experience as the basic factors in becoming practitioners in mental medicine.

It is further evident that preceding observation, clinical study and practice, there must be adequate training in psychology (the science of mind), especially in genetic psychology, social psychology and in psycho-biology.

To give greater values to individuation in a clinical case method of study, let me recommend social service training in order that environment may be fully understood by the would-be psy-

\*Read before the Madison County Medical Society at Alton, Ill., July 7, 1916.



chiatrist. My own experience of twenty-eight years in this field of clinical medicine has taught me that without these fundamentals in the biological and sociological factors, we cannot acquire the art of psychiatry; and in consequence, we will fail to give the individual patient the clinical consideration which is due him. Experience, in its accumulation based on systematic study of the foregoing essentials, in the analysis of cases, becomes a great asset in our understanding of the individual problems presented in each case. Further, experience stimulates observation upon which clinical interpretation is founded and which in turn suggests treatment.

It is true that the ordinary routine of case study as followed in the reception service in hospitals for mental disorders, supplies much of the observational data needed in clinical classification. But, we need more than ordinary observation in formulating an adequate and satisfying clinical picture of a case. We need investigation, which really is research, and means more than systematically following a scheme, however complete it may be in its details. Investigation goes even further; it enters into a study which depends upon the ingenuity, resourcefulness and personality of the clinician.

Here is where educational opportunities, preliminary training and experience give their true values in making a clinician in mental medicine. The day of the amateur psychiatrist is passing and the trained clinician is coming into his own. The time is not far distant in the State Hospitals service in this country, just as in the special medical service rendered by the U. S. Army, Navy and Public Health Service, when insistence upon adequate preparation, training and experience must be the criteria for service in this now recognized special department of medical service.

In other special fields in the art of medicine, notably in surgery and in internal medicine; it is the unique distinction of having complied with the three essentials, viz: adequate preparation, training and experience, that one has authority for being recognized as specialists in these fields of practice. If such requirements exist for these special clinical fields, why not for psychiatry, *which involves more general knowledge of the individual than any other specialty in the science and art of medicine?*

In the study of the individual, we deal with the most profound problems in philosophy and in medicine. For these reasons, it is demanded of the clinical psychiatrist, that he have more comprehensive, practical knowledge of the individual than is demanded of any other specialty in medicine. The individual is a problem in normal psychological interpretation. To determine his mental content means penetration by indirect means and the application of the evolutionary principle to all of the problems in order to get what Stanley Hall calls "a complete natural history of the mind."

Practical experience impresses one with the great biological facts of variability and their application in the study of racial variations in characteristics and traits and of social and ethical values. Also, a host of interrelated elements which can be described and judged as factors in the make-up of the life history of the individual. It is these factors, after all, which are the potentials that determine conduct and give the trade-mark which we designate personality. These forces spring from native instincts and emotions which are without the control of the individual; others from concrete events in experience representative of the fulfillments of his own volitions. Here is where interpretation from the viewpoints of both analytic and synthetic considerations come in to enable us to have real insight into the meaning of individuality. Without such understanding of the individual, we cannot give full interpretations of him as a problem.

Then, we must remember that body and mind in their integrations have manifold differences; "that the mind, like the body, seems to be made up of parts that can vary independently of each other." Crile has shown us in his remarkable book, "Man, an Adaptive Mechanism," that man is essentially an energy-transforming mechanism obeying law of Physics as do other mechanisms. In no other field of observation than that of mental medicine do we have a greater opportunity to view man as an adaptive mechanism; and, in this viewing, note analytically how also individuals differ. Again, when considered synthetically with reference to their personality as a whole, individuals show distinct differences in their social adaptations toward their fellows and to values and efficiencies which mark them as citizens.

Here is where I wish to emphasize the clinical significance of individuality. It must not be considered superficially as is too frequently the case. No! it is a complex problem involving variations in biological, social and ethical values. As a biological problem in heredity, we have valuable interpretative knowledge in our modern methods of study in genetics. The long "double line of forebears," with their mixture of variables, even if complex may, in many cases, be worked out by an understanding of Mendelian methods and interpretations. Bateson in his most enlightening work on "Problems of Genetics" says of Mendel's work that "Investigations which before had only been imagined as desirable now became easy to pursue and questions as to the genetic inter-relations and compositions of varieties can now be definitely answered."

Briefly put, the essence of Mendelism lies in the discovery of the existence of unit characters or factors. The application of Mendelism to the human race and its great problems in variability and adaptation is yet in a rudimentary form. But, this is also true of the genetic study of animals and plant life. In due time, however, speculative position regarding many of our genetic problems concerning man as an individual will be supplanted by real scientific opinion.

Permanent scientific progress in genetics is better established now than it ever was. It is our duty as physicians dealing directly with these problems in our daily clinical experience, to give heed to this advancement in scientific interpretation. Especially must this be kept in mind, in a genetic sense, when considering the fact that "the human being having both greater complexity of structure than other species, greater plasticity and a longer period of infancy" is moulded by environment more severely. Thus, from birth, during the plastic period of childhood and youth is the individual exposed to complex conditions of living, which moulds him into the most puzzling of living creatures. Thus is created individuality and thus are evolved the foundations for problems as we find them in our patients.

We begin our clinical work by description, which always must precede practical classification. We can classify clinically, differentiate subdivisions and arrange groups. But, it requires intensified study from the standpoint of all of the sciences, the findings in which are necessary to an understanding of the biologic and social

values which enter into the making of what we call human nature. Clinical psychiatry is but an interpretation of these factors when disordered. The new psychiatry has opened this field and its strong currents have, in recent years, turned in the direction of psycho-analysis, as applied to the variational or the individual problem. This includes psychology—general—with its variational method of study of individual differences. This method is that of comparative observations, not only of species and racial factors, but of human differences in traits, and particularly the psychology of social differences and relationships, "where endowment, motive and circumstances meet," to give ethical values, group and economic values; above all, to give interpretation of facts as based on genetic and social psychology wherein the reactions of the primary instincts and their accompanying emotions are to be understood and valued "the emotional as well as the intellectual, the esthetic as well as the moral, the occupational as well as the relational impulses and expressions of men, as recognized parts of the psychological endowment—as integral parts of human nature." From such a study are evolved groups which are interpreted in accordance with the laws of evolution, especially in its application toward variability.

Each case, as I view the subject of individuation, therefore, must be considered from the standpoint of the clinical findings as based on modern diagnostic methods, including chemical, physiological and serological, etc., methods of procedure. Then, diagnostic psychological methods as applied to the mental life with as complete schematic data as possible. This data is greatly enhanced in value if we can have the facts of genetic psychological observations covering the periods of infancy and childhood, especially the pre-school age period when environment is fast moulding traits and indelibly stamping upon native temperamental tendencies the fundamentals of character and personality. Again, let us follow the projected period of childhood during its nascent period up to twelve years when boy and girl are much alike; and then, on into that most interesting evolutionary upheaval caused by sex differentiation, the adolescent period.

We now have laid the foundation for the descriptive science of individuality. A science which cannot be confined within the limitations of psychology. True, we know that the study of



individuality is more closely related to psychology than any other science. But, we seek to go further and enter upon differential psychological grounds and this takes us into the realms of comparative differences. Kraepelin has immortalized himself in delineating differential studies of various traits in normal individuals and comparing these same traits as found in disorder or disease. This is the projected differential study of individuality and is aptly illustrated in the study of fatigue. Kraepelin has studied individual differences and delineated them in a curve, wherein the various factors in fatigue, each in itself independently variable have been isolated and established in a comparative way with the normal. In this way, norms have been established for some of the common mental processes, such as counting, searching for certain letters and incorrect spelling, addition of a column of figures, reading aloud, etc. Other investigators have followed individual psychological methods in their studies of differences. Experimental psychology has added interest and value to these differences, notably the work of Binet, Witmer, Healy, Goddard, Whipple, Thorndike, Seashore and others. Upon such studies was founded the now well known Binet scale, where variability is noticed in traits that most characterize a person in actual life.

Then, there comes in the widening scope of individuation in the psychology of Freud, which has given us a better understanding of the whole conduct of human life and a new comprehension of individuality, in that it explains those things which were formerly unexplained and has shown us that each individual is to a large extent the determiner of his own destiny.

Let me add in passing that the great philosophical French poet, Maeterlinck, has presented this same fact in his own unique way in his beautiful essay on "Wisdom and Destiny." He is an interpreter of life, a harbinger of hope, a prophet in happiness and gives to the individual his due as he seeks to aid him to work out his own destiny. This is projected differential psychology, the science of individuation. Freud, Jung and others have given us an understanding of the science of individual psychology, a differential psychology, with its basic inherent influences and motives, which, at work, create inhibitions, restrictions and repressions, etc., in such a way as to interfere with the full development of personality. Individual psychology here, in its application, is

"destined to help individuals attain to that level where they really belong and to prepare people to better understand and meet life whether they are neurotic sufferers or so-called normal people with the difficulties and peculiarities which belong to all."

Freudian psychology is individual; it is analytical and it attempts to unify and value all of the various phenomena of man which has been observed and noted at different times by isolated investigators of isolated manifestations and thus being some orderly sequence into the whole. "It offers a method whereby the relations of the human being biologically, to all other living forms can be established, the actual achievements of man himself adequately valued and opens a vista of the possibilities of improvement in health, happiness and accomplishment for the human being." (Hinkle.)

What more can we ask of individual differential psychology? Freudian psychology leads to a study of the emotional life with its mechanisms, complex as they are. It leads to a study of innate differences in adaptability of an individual to the tasks of life and the reactions selective, perhaps, to environment. It leads to an understanding of circumstances as well as environment. It enables us to note the innate differences in individuals and their variations in adaptability to experience, tasks and environment.

We must not forget that deep-seated native tendencies act selectively upon the environment, and environment in turn reacts upon the individual to mould and modify the original native differences. In other words, the fundamental traits of interest evolved by experience determine conduct. Here is where marked interests, ordinary or extraordinary, instinctively create reactions, more or less fertile in developing attitudes toward life. This is especially true in the interest of sex, where its developing potentials project themselves in the evolution of personality. This question is paramount in the individual study of the adolescent and obviously its central importance must be recognized in order to unfold the aberrations, maladjustments and episodic eccentricities of conduct, that usually remain unexplained or are falsely attributed to other causes. Healy has given us valuable clinical evidence of the importance of this phase in human conduct, of this peculiar interest, in explaining the conduct of adolescents, even in well regulated fami-

lies where criminal charges have been preferred. His studies of "The Delinquent Individual" are rich store-houses of facts elucidating the psychopathology of youth. There are other fundamental interests based on the instincts and primary emotions which, to be best understood, it is necessary to study the mechanisms of the emotions, etc., as delineated by Cannon, Crile, McDougal and others. We, then, will understand their clinical significance, and their social values, especially from the standpoint of racial, family and individual survival needs.

The instinct of self-preservation with its accompanying primary emotion of fear; the instinct known as family instinct, which includes sex, as manifested both in the male and female in an individual manner with the accompanying primary emotion of love and its radiations; the gregarious instinct, the conscious of kind (the herd instinct) and its emotions; the acquisitive instinct with its considerations of rights, property in general and other inter-related primary instincts which serve in developing the considerations of morals, religious sympathy, etc., all of which in their correlations serve to mould the individual, give him character and define his personality. These preferential instincts and their correlations have deep psychological values in the analysis of a caes. Especially is this true in the relations of development, important in character and temperamental evolution where traits, characteristics, mark the individual as different from his kind. These inequalities, native and acquired, show their effects in accelerations or retardations and are departures from the average in development. They may be remedied by re-education of the personality, or they may be evidences of abnormality, which may increase with age.

The complexity of the individual we thus see, becomes a reality, wherein the purposive life, in its sum of interests, needs eternal vigilance, prompted by intelligent appreciation and sympathy to bring into proper balance these maladjustments. The complexity of our problems, therapeutically speaking, becomes more evident when we realize "that the development of interests is no mere unfolding of instincts"; for at the very beginning of life an intricate process of interaction commences between these innate instinctive elements on the one hand, and on the other, environmental forces, themselves highly complex,

variable to a great degree and more so as socializing influences advance.

Interests are selective, and under average normal conditions the interesting forces of temperament and environment come to balance, and finally, the differentiation is made, which marks the individual as a personality, whom we recognize in the woof and warp of society. We cannot enter here upon the individual traits, nor the study of temperment or character. However, it is important to briefly touch upon some of the biological facts which have a marked bearing in differential study and in determining temperment, traits and character in its evolution. Of these, the most important are those of sex differentiation between man and woman, from the viewpoint of attributes, peculiar to each sex and upon which conduct may depend. Bell, in his valuable studies of sex from the standpoint of the endocrine glands (the internal secretions) has given us one of the most enlightening contributions of recent years. His studies of the correlation of the internal secretions in their specialized functions will do much to clear up the differential understanding of many of our complicated clinical problems. He has given us insight concerning the functioning of endocritic glands and their influence on general metabolism, "which is influenced to subserve the necessities of special functions and on the psychology of the individual." The value of this most modern field of research is to be had in an understanding of the fact that mind is influenced by metabolism and therefore, by the condition of the organs of internal secretion. This fact, we have known, but the value is in the breaking of new grounds, where are found the details of the intricate mechanisms of the mind, dependent upon the internal secretions and which go to mark individuation. "Mental aspirations are the aspirations of the controlling factors of evolution, even though they appear to be selfish ambitions of the individual." "Nature adroitly furthers her scheme of evolution by teaching man, before whom, but unknown to him, she places inducements to improve himself; and thus there are wheels within wheels, although the effect on the hand of Time alone is visible; reproduction with individuation; individuation with reproduction; Individuation; Evolution. The higher mental processes then in the human are turned into account in the physiology of reproduction in a manner apparently not exer-



cised in the lower order of creation." We must, therefore, remember that the individual is merely a tool of nature; a unit in a vast scheme. It is our work to understand the individual as we find him; to understand his mental attitude as dependent on general metabolism. This mental attitude is dependent on the metabolism of every cell in a man's body. Bell says, "that every cell of the body is an organ of internal secretion and is intimately connected with the life of all other cells." But those aggregations of secretory cells known as the endocritic glands afford us definite information as to the processes of metabolism with which they are connected; consequently we can trace their relations to mental processes. It is in this new field that a more exact study of the individual from the standpoint of metabolism is promising much in therapeutics. All of this extremely interesting and important modern research shows how mind is dependent for its normal functioning on the conditions of the body.

Contributory knowledge along these lines is found in the work of Crile in his promulgation of the "Kinetic Theory," wherein he considers the manner and form of conversion of potential into kinetic energy. The mechanism of this transformation by means of a system of energizing organs adapted to this end, explains the phenomena of exhaustion, when over activation disturbs the harmony of this mechanism. He explains how the driving force, nervous energy, when converted into work energy, subserves the needs of man; and, when environmental contact over stimulates functioning, certain so-called kinetic diseases result. Crile's work is one of the greatest contributions to modern medicine and surgery, and to me, is the one great contribution, which explains mental perturbations as we find them in the so-called "Toxic Infective Psychoses," and also, explains the physical phenomena of the anxiety neuroses and psychoses. It also is a great factor in studying the reactions of the individual to his environment as we find him under average conditions of daily life.

Another great field is that to be found in criminal psychology, especially where sex-psychology comes in to affect the validity of testimony. Gross, the great German criminal psychologist, has given us a masterly discussion of all of these factors in his work on "Criminal Psychology."

I have already taxed your time and patience with this rather desultory discussion of individua-

tion, now let me conclude by saying that with this rather heterogeneous grouping of clinical facts and needs, we must resort to individual treatment in order to give them valuation and to obtain the end results desired in adjustment of the individual to the varied causative factors. We can no longer, in the light of accumulated facts in causation, be contented with perfunctory routine in treatment. No! the time has come when efficiency in treatment must be determined by the indications in each individual case. Curative methods are faulty when they lose sight of the individual and treat him simply as a case. Routine treatment has its place, but it is at best a perfunctory make-shift in which both patient and physician lose their identity and the art of psychiatry has another black mark registered against it. My appeal, therefore, is for individuation with treatment; treatment with individuation, and thus make our work an honorable contribution to the science and art of psychiatry.

#### REFERENCES.

- Partridge: Outline of Individual Study. Sturgis & Walton.  
 Healy: The Individual Delinquent. Little, Brown & Co.  
 Healy: Pathological Lying, Accusation and Swindling. Little, Brown & Co.  
 Gross: Criminal Psychology. Little, Brown & Co.  
 Stanley Hall: Adolescence. Appleton & Co.  
 Jones: Psycho-Analysis. William Wood & Co.  
 Freud: Theories of the Neuroses. Journal of Nervous & Mental Disease.  
 Munsterberg: Psychology, General and Applied. Appletons.  
 Jastrow: Character and Temperament. Appletons.  
 Cannon: Body Changes in Pain, Hunger, Fear and Rage. Appletons.  
 James: Psychology and Life's Ideals. Henry Holt & Co.  
 McDougall: Social Psychology. Luce & Co.  
 Minot: Age, Growth and Death. Putnam & Sons.  
 Cabot: Social Service. Moffat, Yard & Co.  
 Ziehen: Physiological Psychology. Sonnenschein.  
 Bateson: Problems of Genetics. Yale University Press.  
 Jung: Psychology of the Unconscious. Moffat, Yard & Co.  
 Crile: Man, an Adaptive Mechanism. Macmillan.  
 Bell: The Sex Complex. William Wood & Co.

#### ANGINA PECTORIS.\*

S. E. MUNSON, M. D.,  
 SPRINGFIELD, ILL.

Like many of the diseases described in medical literature, the name was not given because of any definite knowledge of its pathology, but to describe certain kinds of pain in various regions of the body, or the clinical appearance and symptoms of the patient during the manifestations of his agony.

Such was the disease described by William Heberden in 1768, "as a disorder of the breast," to which he gave the name "Angina Pectoris"

\*Read at the sixty-sixth annual meeting of the Illinois State Medical Society, at Champaign, May 18, 1916.

based on the study of twenty cases. Dr. Osler says he had reached a fellowship before he saw a case in hospital or private practice, and that an average of about one case a year is seen in the wards of the large general hospitals.

For apparent reasons, sex is a notable factor in the frequency of this disease. In 268 cases reported by Osler only 37 were women. From my perusal of the literature I do not believe

individual statistics are of much value on this point. But it is safe to say that the disease is much more prevalent in men than in women.

The greatest number of victims of this disease are past adult middle life, too often just as the individual is approaching or has reached the zenith of his career. Hence the highest mortality is recorded in the fifth decade.

As an excuse for introducing some historical references I give the following from a recent author on this subject. He says, "I have quoted the sources at some length and even attempted to paraphrase the essential statements of Heberden, because nothing I venture to state makes a subject like this more lucid than its historical aspect."<sup>1</sup>

An interesting point in the etiology is disclosed by Osler in his reference to the prevalence of this disease in a certain race of people, particularly in the United States "where a rapidly growing country gives scope to their exceptional genius for business. Living an intense life; absorbed in his work; devoted to his pleasures; passionately devoted to his home; his nervous energy is taxed to the utmost, and his system subjected to that stress and strain which seems the basic factor of so many cases of angina pectoris."<sup>2</sup>

The literature further discloses the fact that angina pectoris is an affection of the better classes, and not often seen except in private practice, also the frequency of the disease in the medical profession. There may be an added panacea to us in this statement. For the same reason Osler quotes Sydenham, saying when speaking of gout, "More wise men than fools are afflicted."

Shortly after the description of this disease by Heberden, the diagnosis of angina pectoris was made in the case of John Hunter by his brilliant pupil, Edward Jenner. "From this time, a long list of distinguished men in the medical profession have been its victims. Nothnagel, one of the ablest students of this disease, and himself a sufferer, described his own fatal attack. 'Angina attacks with very severe pains, pulse very variable, 56 to 60, quite regular, high tension, again rapid, 80 to 90, tolerably even. Again arhythmic, at one time unequal, rapid at another, slow with changed tension. The first sensation of this attack dates back three to four years, gradually be-

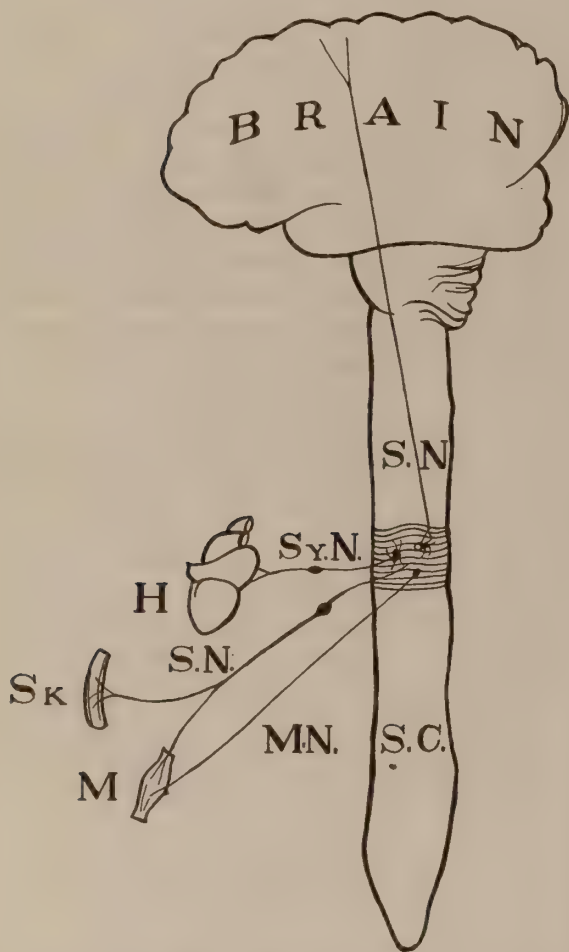


Fig. 1. Diagram showing the mechanism producing visceral pain. From H, an abnormal stimulus is conveyed by the sympathetic nerve (Sy. N.) to the spinal cord S. C. On reaching the cord, the abnormal stimulus spreads beyond the sympathetic center, and affects nerve cells in its immediate neighborhood. The cells so stimulated react according to their function, the sensory causing a sensation which the brain recognizes as pain, and refers to the peripheral distribution of the sensory nerve (S. N.) in the skin (Sk.) or muscle (M), the motor (M. N.) producing contraction of the muscle (M). The abnormal stimulation may leave a portion of the cord abnormally irritable (shaded portion), so that the tissues supplied by nerves from that portion of the cord are hyperalgesic, and attacks of pain, as of angina pectoris, are more easily provoked.—Mackenzie, Diseases of the Heart.

1. Stein: Medical Record, July 24, 1915.

2. Osler: Lumleian Lectures, Lancet, Mar. 12, 1910.



coming more pronounced. Severe attack came on with severe pain, the last five or six days.' This was written late in the evening, after three very severe attacks. Within a few hours after this note, the end came."<sup>3</sup>

Charcot died in an attack in the arms of his friend Straus, who himself succumbed to the disease shortly afterward. As stated by one of his contemporaries, the most brilliant and devoted physician of his generation in our own country, Dr. William Pepper, died with coronary arteries like pipe-stems. "As a teacher, consultant, a prolific author, in him was found typically the restless American spirit which drove him into a premature grave at the early age of 55. It seems that in the history of most of these men, the added factor to work was 'worry.'"<sup>4</sup>

The lucid style and fascinating manner in which Osler presents the subject of angina pectoris in his lectures, illustrating each type or classification of the disease, reads like a story. But in the last few years, this difficult subject has been attacked in a more direct way and with the assistance of the polygraph and electro cardiagraph, the general study of heart diseases has changed our notion of many things. It, no doubt, is true as Osler says in his second Lumleian Lecture that had Heberden listened to his first lecture he could have remarked, "Well, they are not much ahead since my day." In descriptive symptomatology, we are not. He had the good sense not to say much about the cause of the disease and the good fortune to get close to the truth in what he did say."

Nothnagel ascribed it to spasms of the coronaries with consequent local ischemia. Huchard divided angina pectoris into true and false: that produced by effort he called true; that without effort, false, and attempted to prove that every case was due to an affection of the coronary arteries.

The frequent indiscriminate use of such terms as "false angina pectoris," "angina sine dolore," "angina vasomotoria," "angina vera," with no clear sense of their etiology or pathology has added to the difficulty of comprehending the fundamental causes of precordial pains.<sup>5</sup>

Under conditions in which angina pectoris is produced, Mackenzie says that if a large number

of patients be studied, symptoms of angina pectoris will be found to arise in patients with the most diverse forms of lesions and even in patients without any evidence of cardiac disease, and quotes a number of cases to show that angina pectoris can arise in cases of over-strain, aortic aneurism, aortic valvular disease, atheroma of the coronary arteries, myocardial degeneration, or enfeeblement of the heart muscle from poor nourishment, increased arterial pressure, sudden changes in the rate and rhythm of the heart, temporary conditions of obscure origin, and senile changes.<sup>6</sup>

In the studies of those investigating this subject in the past, it seems to have been their effort, as stated before, to attribute a definite pathology to the disease upon which to base a classification of its symptomatology. Many of these have been touched upon in our discussion to show the protean manifestations of this disease. It has been definitely shown that lesions of the coronary arteries are one of the most common pathological findings. (a) Narrowing of the orifices as an accompaniment of syphilitic aortitis, especially of the supra-sigmoid portion. (b) Blocking of a branch with a thrombus is a very common cause of death. Herrick mentions having seen six cases, with post mortem findings in one. The one who survived the longest died in twenty hours. The symptoms differentiated from the usual attacks are those of profound shock with a small, rapid pulse, 140 to 160, and with pain unremitting.

Cases are described by various authors of coronary arteries exhibiting the appearance of open, bony tubes, as in the case of John Hunter and William Pepper, or the destruction of various branches to obliteration of almost the entire coronary circulation. Osler says, "A man may get along very comfortably with only the main branch of one coronary artery, practically one-fourth of the whole system; that the coronaries are not end arteries in the sense of Cohnheim, and diseases of their branches are not necessarily associated with angina."

The pathological findings have not been in accord with the clinical theory that the pain is necessarily dependent upon atheroma of these arteries, "as persons suffering from typical anginal attacks frequently fail to show on post-

3. Osler: Lumleian Lectures, *Lancet*, Mar. 12, 1910.

4. Osler: Lumleian Lectures, *Lancet*, Mar. 12, 1910.

5. Neuhof: *Journal A. M. A.*, Mar. 4, 1916.

6. Mackenzie: *Diseases of the Heart*, p. 71, 1915.

mortem any lesions in these vessels, while those never having suffered from angina pectoris frequently show extensive coronary lesions and obliteration of an artery."

As stated by Richard Stein, "Unfortunately, the large subject of visceral pain and colic is still in all its bearings a matter of contention among physiologists and clinicians."

"It is impossible for the physician," as Allbutt has said, "to draw a parallel in the living patient between the formidable work of decay described by the pathologist; how and when these degenerations are manifested; how in the long course of cardiac decay, the imminence of death is to be foreseen and provided against; or how we are to know any such process is at work at all; or lastly, how in a case of known heart disease the degree of its advancement and the cardiac reserve are to be noted and tested."

"Thus we have the physician and the pathologist trotting each on his side of the hedge, each intent upon his own scouting and his own bearings, and neither able as yet to reconcile his own observations with those of his comrades."<sup>7</sup>

The best explanation of angina pectoris, quoting Mackenzie: "that it is not a disease but that it is merely a group of symptoms which afford no clue as to the real nature of the heart's complaint, so that inquiry must be made for other evidence which will elucidate this problem."

We wish to further emphasize the statement that angina pectoris can arise in cases with such varied existing conditions and symptomatology. (a) That it may occur in hypotension as well as in hypertension. (b) In all forms of cardio vascular disease, with myocardial insufficiency. (c) In acute rheumatic endocarditis and rheumatism, many complain of sticking pain which they localize in the heart. (d) And other causes already mentioned. There can be no doubt but that the results of such diseases as pneumonia, typhoid fever, enteritis, and above all influenza and pseudo influenza pave the way for a frank attack. Contrary to the statement that angina is not inflammatory, rectal temperatures will elicit from one to two or three degrees of fever. One case of mine showed rise of temperature until improvement began.

An attack of angina pectoris is usually led up

to by a period of gradual exhaustion and comes as it were when the last straw is laid upon the load. No doubt many more casual factors are present than were formerly considered.

"That the blood stream may carry abnormal chemical products that will excite an attack by its influence on the nervous mechanism of the heart is no doubt true."<sup>9</sup> One case of mine had a severe acidosis, with acetone and diacetic acid in the urine.

Case 1. Male. A man of small stature, fairly well preserved, 71 years old, weighed about 125 pounds, worked in his early years as a mechanic and contractor, but for 25 to 30 years had lived a quiet, retired life; a man of extreme intensity in either physical or mental work. About 1904, I first saw him as a patient, when he complained of stomach trouble and constipation. At this time he was carrying out with his usual intensity a diet, suggested to him by friends, of coarse breads, bran eaten raw, and taking only sparingly of meat. With treatment and advice over a short time he was able to eat a general diet and constipation was relieved. At this time, there was some evidence of contracted kidneys and blood vessel changes. Owing to his excellent habits, using neither tobacco nor alcohol in any form, and his easy, comfortable way of living,—having no family but his wife,—a favorable prognosis was predicted for him. Following a winter in the south, his general health became excellent with no further symptoms of stomach trouble.

In order that he might keep himself well and vigorous, he believed strenuous exercise was necessary. He would rise at 5 o'clock and walk about half a mile to a spring, where he usually drank about two pints of water. Frequently, as he told me afterwards, he would run some distance and never felt short of breath. For several years he added to this exercise by disposing of any trees not desired in the neighborhood, having a man haul them to his back yard in the city, where he put in his spare time sawing and splitting wood.

In April, 1915, just after finishing a task of this kind, he called to consult me about an acute pain in the epigastrium. About 3 a. m. of the next morning I was hastily summoned, when I found him suffering from the most intense attack of steno cordia. The pain had commenced, as it did the night before, in the region of the stomach and spread to the left side of the chest, extending first down to the fingers of the left hand, then to the right arm and fingers and involving the muscles of the left side of the neck and throat, including the muscles of the mouth, giving an appearance of paralysis. The face was pale, bathed with perspiration and wore an expression of deepest anxiety. The pulse was full and regular, about 60. He talked with great effort and only when it seemed there was a relaxation of the gripping sensation. Mor-

7. Price: International Clinics, ii., 21, 1915.

8. Elsner: Archives of Diagnosis, p. 302, Oct., 1914.

9. Foster: Archives of Int. Med., p. 256, March, 1915.



phia, gr.  $\frac{1}{8}$  and atropin, gr.  $\frac{1}{200}$  was given hypodermically, from which he soon expressed himself as feeling better. He seemed to be afraid to speak or even move at first, but begged for relief and if possible, to prevent another attack, as he felt he could not survive it. There was a marked odor of acetone to the breath and the urine was of a high color and showed a few granular casts.

The next day he called in his attorney and made final disposition of his affairs. Under the care of a nurse, with administration of alkalies per mouth and high colonic flushing, the patient left his bed at the end of a week, feeling well and refused to longer have any special attention. I cautioned him about using an upstairs bed-room on account of climbing the stairs, but this he thought was not necessary.

On July 25, after attending to some business matters down town and as he admitted, climbing a steep pair of stairs two or three times to see a man, he again had an attack with the same symptoms as before and was unable to get any relief without amyl nitrite pearls. When I called the next morning, he was sitting in an arm-chair where he had spent the night. His pulse taken from the chart ranged from 60 to 70, sometimes as high as 80. He coughed at times and expectorated a foamy, yellowish sputum. The patient felt very nervous and weak, pulse was also very weak at times. Heat applied to left shoulder and precordium seemed to relieve the pain. Blood pressure taken each day ranged about S-120, D-60. As in the previous attack, at no time had his blood pressure been more than 130. I had the opportunity to take his blood pressure during the oncoming of a violent attack. Blood pressure went up to S-190, D-90, but when the paroxysm was relieved, dropped back to usual point, only remaining at this point about one hour. The amount of urine had been about 60 to 70 ounces in 24 hours, passing about two-thirds of this amount in the twelve-hour night period, but there was a gradual decline in the output.

August 3, began having hallucinations of people standing about his bed. Pain severe, at times relieved by amyl nitrite pearls or hypodermic of morphia. He began showing two or three degrees of fever and the urine dropped to 21 ounces in 24 hours. Blood pressure lowest at this point, S-90, D-52. About this time he became unconscious for 48 hours. Features pinched and skin of ashy color. The precordial pains gradually subsided, blood pressure ranging about S-120, D-60, a few times as high as S-150, D-80. In about six weeks he was able to sit up, all pain had subsided and patient slept comfortably. Later, after beginning more exercise, the discomfort began annoying him. Shortly after going to bed at night he could not sleep while lying down and even undressing would excite an attack. I found upon inquiry that he had begun using an upstairs bed-room, which being discontinued, he was able to sleep all night and felt much improved. He found by omitting the evening meal that the attack was less likely to occur and the night spent more comfortably. This patient, unfortunately, like many sufferers of angina pectoris, has an irascible dis-

position and not unlike John Hunter, who was wont to say that "his life was in the hands of any rascal who choose to annoy or tease him." Two serological examinations were made from two different sources, one positive; the other, negative. I do not believe there is a possibility of syphilis in this case. The heart is enlarged; left dulness, 3 cm. outside of nipple; right dulness, at the right margin of the sternum. There is a systolic murmur and an arrhythmia present at all times. I believe this case has an aortitis with involvement of the coronaries.

This case illustrates an important symptom mentioned by Osler and a point in differential diagnosis in that the pain began in the region of the epigastrium and he spoke of no other complaint. Osler says the difficulties in diagnosing these cases that resemble the tabetic crises may be very great. The statement of a condition of acidosis being present in angina pectoris conforms to recent studies in nephritis with hypertension which is often accompanied by abnormal amounts of non-protean nitrogen and a diminution of blood alkalinity and comparative acidosis. Crile in his theory of the "kinetic" drive says, "Energy transformation depends upon the maintenance of the alkalinity of the blood, and the means by which the acid by-products which are always found in the transformation of energy can be neutralized and eliminated. \* \* \* Cardio vascular disease bears an intimate relation to foreign protean activation and to nerve strain."<sup>10</sup>

As Osler says, "There are two primary features of the disease, pain and sudden death,—pain paroxysmal, intense, peculiar, usually pectoral, and with the well known lines of radiation,—death in a higher percentage than any known disorder and usually sudden. Often indeed, as the poet says, 'Life struck sharp on death.'" So we ask ourselves, 'what is the cause of the pain and why if angina pectoris is a disease of the heart, the pain oftentimes begins remotely from that organ. One of the best explanations for these questions is given by Mackenzie.

In the diagram, (H) represents the heart and its nerve (Sy. N.) is seen passing to the spinal cord. In the normal processes of life a stream of energy from the heart is continually passing by the afferent nerves to the spinal cord, and continuously playing upon the efferent nerves that run to muscles, blood vessels, etc. These processes are conducted so that they give rise to no appre-

10. Crile: Journal A. M. A., Dec. 18, 1915.

cial sensation. If, however, a morbid process in the heart gives rise to an increased stimulation of the nerves, passing from the heart to the spinal cord, this increased stimulation affects neighboring centers. If it excites the sensory nerve, as shown in the diagram, passing from the skin to the brain, the resulting sensation will be referred by the brain not to the heart, but to the peripheral distribution of the sensory nerve. Thus the pain in visceral disease is seen to be of a reflex character—a *viscero-sensory reflex*. The motor nerve (M. N.) is shown arising in the cord and passing to a muscle (M.). The stimulus from the heart passing into the spinal cord may excite the cells of origin of the motor nerves, thereby exciting the muscle to contraction; hence the *viscero-motor reflex*. (See accompanying diagram.)

Causes leading up to or inducing an attack of angina pectoris. The individual may have been in his usual health, following his daily vocation without having noted any previous discomfort from his heart when the ominous symptom, pain—light or severe—comes as a warning like Hamlet's ghost. There has been some insidious change going on, producing one of the many conditions that we find in cardio vascular diseases upon which is superimposed an added burden from over exertion, an error in diet, or the perverted function of organs that have to do with the chemistry of the body.

Angina pectoris usually appears as a late symptom after the heart has been struggling a long time against the obstacles opposed to its efficient action or after the nutrition of the muscle has been impaired by gross pathological changes. The attack in most cases does not come on at once unless the effort is persisted in and the first warnings of heart exhaustion are ignored. The pain may not make its appearance until some hours afterwards, or, as in my case, at 3 o'clock in the morning. The length of an attack may vary from a few seconds to one of several hours, only to be relieved by the help of "God's own medicine—morphia."

The pain is usually referred to the upper four dorsal nerves, in the chest and arm, and as low down as the sixth dorsal nerve in the epigastrium. In the case cited, the pain was felt in the neck and back of the head, that is, in the cervical

nerves, whose roots are in close association with the vagus.

Case 2. Male. In October, 1915, consulted me because recently he had been unable to walk more than one or two blocks without shortness of breath and pains appearing in both wrists that were so severe that he would have to desist. After sitting down and resting a short time, the dyspnea and pain would subside. A physical examination and functional tests showed he was suffering from an advanced myocardial condition. There was found a pure culture of colon-bacilli in the urine and an x-ray of some suspicious teeth disclosed the necessity for their extraction on account of focal infection. This patient, by appropriate rest, digitalis and Nauheim baths is now able to walk leisurely a half mile. An interesting feature of the case was pain in both wrists but without precordial pain. The blood pressure at first was S-115, D-100, but on digitalis the S. is now 130 and D-90. Wassermann negative.

Case 3. Male. A very tall, spare man, 80 years old. Has arterial changes, not pronounced, with chronic bronchitis each winter. In April, 1910, he had been spading and working in his garden. The next day, Sunday, while walking back to the barn he became unconscious and fell, where he was found attempting to sit up in a dazed way. There was no evidence of paralysis when I saw him and he was perfectly conscious. He said when he enlisted and was examined in 1861 his pulse was 50. This bradycardia I had noticed many times before. The patient's pulse at this time was 37, with an arrhythmia. He complained of being very weak, vomited and sweated. In a few hours he began to complain of pain in the left chest and shoulder, extending down to the left arm. The next three or four weeks he suffered the most intense agony from the precordial pains from which he begged for relief, fearing death. He was kept in bed most of the time for six weeks with constant attendance, and is now in fair health at 86, not having had any recurrence of his first and only attack. His blood pressure at no time was higher than S-110 and D-60, pulse 50. The condition causing him to suddenly become unconscious and fall I thought to be one of heart block or of Adam Stokes syndrome.

The prognosis in a case of angina pectoris must be based upon the clinical findings, the integrity of the myocardium, the habits and environments of the patient, and the ability of the heart to recover from its exhaustion. The tragic ending of so many of these cases have so influenced the minds of the profession and laity that a sufferer from this disease is looked upon as having a grave prognosis. "The severest attack is not necessarily serious, nor the mildest free from danger."<sup>11</sup>

When the degenerative cardiovascular changes

11. Mackenzie: Diseases of the Heart, 1915.



are not progressive, and the patient who has an impaired circulatory apparatus from disease or senile changes can be prevailed upon to carry a lighter load, with rest and care he may live many years of usefulness in comfort.

The prognosis becomes grave when there is only slight response to treatment, and especially when the disease is accompanied by such grave symptoms as cardiac asthma, pulsus alternans and Cheyne-Stokes breathing.

Treatment naturally divides itself into improvement of the heart with the conditions which influence its work and the relief of pain during an attack. A treatment directed alone to the medication of the symptoms without an effort to determine actual conditions is doomed to failure. Food, digestion, assimilation, kidney and bowel functions are to be considered as well as such factors as work, worry, insomnia, over-indulgence in eating, alcohol, etc. As a temporarily exhausted muscle in the majority of cases is the cause of the attack, the simple assurance of a favorable prognosis will greatly relieve the patient. Two of my cases have been much improved by a course of Nauheim baths. Where there is an indication of impaired myocardial function in either hypotension or hypertension, I have found digitalis to be undoubtedly of value. I have given the iodides many times and over long periods without any apparent benefit so far as I could see only where syphilis was suspected.

The treatment during an attack when severe demands our best judgment in securing relief quickly and safely. Where nitrite of amyl pearls are found to be of benefit the patient can be supplied to use in sudden attacks. Nitroglycerin, gr. 100, will give relief in some cases and entirely fail in others. Morphine in small doses, gr.  $\frac{1}{8}$  *pro re nata*, I have found to be more efficient than any other remedy. This may be combined with atropin, especially where there is suspected ischaemia of the heart from coronary involvement. Hot applications in the region of the heart with hot drinks are of value. In one case a physician tried strophanthine intravenously, only to have his patient die in a few minutes after his departure.

I believe the prognosis and treatment of angina pectoris could be rewritten in yet a more favorable light if we would insist, as in tuberculosis,

upon early diagnosis and treatment of cardiovascular diseases.

Leland Office Building.

#### DISCUSSION.

Dr. Buckmaster, Effingham, called attention to the similarity of cases of pulsus alterans and of heart block; in angina pectoris it is simply a heart muscle that has lost its power. The question of heart block is a different proposition in the sense that the impulse is not conducted from the origin in the auricle into the ventricle as it should be and to a certain extent the same feature operates in the pulsus alterans; but the essential feature is degeneration in some place in the heart which lessens its efficiency.

In angina pectoris the heart muscle is not nourished for the time being and it gives out. The best thing with those cases is to make them live within their limitations and thus lessen the danger and severity of the attacks.

One patient may be taken care of over a period of time and temporary improvement obtained. His range of possibilities will gradually increase until he may lead a fairly useful life. Another one may not be able to be active at all.

Another condition in very close relationship with this is syphilitic aortitis, high blood pressure and sclerosis affecting the beginning of the aorta and a portion of the heart, with damaged heart valves. The luetic aortitis will affect the area all the way around the arch of the aorta and sometimes on down in the descending portion, but ordinarily it will end about the ending of the aortic arch. In his opinion a positive Wassermann indicates syphilis in all probability, but if it is not positive the patient may still be syphilitic, as only about 50 per cent of hibernating cases of syphilis give a positive Wassermann.

The spirochete hibernates in the arch of the aorta and the base of the heart more frequently than anywhere else.

Dr. Iknayan, Charleston, noted the etiology as ascribed to the presence of diacetic acid and other fatigue substances in the blood. It seemed to him, with the etiology of these cases as understood and described by the essayist, that angina pectoris is certainly very common and that probably we were making it entirely too common. The failing heart many times manifests itself by painful symptoms, and whenever you succeed in raising the blood pressure, especially in increasing the pulse pressure, you get relief, and sometimes, by relieving the pain, morphine itself is a stimulant. It not only stimulates but it quiets the fear of the patient.

Dr. Munson (closing the discussion): In the matter about which the last doctor has spoken, that acidosis was simply a coincidence and not a cause, I am sure if the doctor looks up the recent literature he will find that this condition is more incident to the disease than was formerly believed. I also believe that angina pectoris is frequently overlooked, for, as the doctor says, "it is so very common that pain may be

coincident with any condition of the heart." But unless the patient has a typical cardiac attack, such as is described in the text books, the physician will not make a diagnosis because he is not sure, and because he is always thinking of the classical symptoms in the text book. I am sure that anyone who has read MacKenzie's book on the diseases of the heart and his article on angina pectoris will feel that the chances are that you will overlook some of these cases. In angina pectoris, in certain cases, we have pathological lesions which we can discover and which, no doubt, cause the disease. In other cases, as stated in my paper, a portion of the coronary artery may be obliterated entirely and yet the person will never have an attack. Consequently, I would lay particular stress on the point of determining the actual conditions and of treating the patient according to the findings.

### THE RESPONSIBILITY OF THE MEDICAL PROFESSION IN THE MANAGEMENT OF THE HARD OF HEARING AND THE DEAF.\*

JOSEPH C. BECK, M. D.,  
CHICAGO.

In order to present this subject to you as forcibly as possible so that we may see results, I will take a great liberty, and probably severe criticism of my action will follow when I say that the profession as a whole, except those directly interested in this specialty, has practically ignored, yes neglected, to give this matter of hard of hearing and deafness the attention it deserves. The function of the ears has always, it seems to me, been treated as a sort of a side issue, yet from the economical point of view it is more serious to be hard of hearing or deaf than having tuberculosis and many other diseases to which the majority of doctors pay much more attention. From the social or esthetic point of view it is most desperate, and, aside from a few rarer mental conditions, a deaf or hard of hearing individual is the saddest and most unhappy human being one ever encounters. Have you ever compared an absolutely blind and a deaf person as to their frame of mind? The blind man has a smile in spite of darkness, and Milton's *Paradise Lost* is an example. The deaf man is morose, yet from the economic point of view there is no comparison, because the hard of hearing or deaf can do one hundred things, whereas the blind man can do only one. The

possibilities for the hard of hearing and the deaf are also much brighter, owing to the marked enthusiasm and educational propaganda afoot. Another important fact in regard to the hard of hearing, especially if one can discover by special test that the nerve is not yet destroyed, or in the deaf mute, some undeveloped remnants or islands of hearing, is, that by treatment and education one may achieve results not dreamed of before. There are quite a number of institutions for the blind and deaf throughout this country and in Europe, but, in so far as the deaf are concerned, it is the hope and there is the possibility that these deaf will be removed to schools and made self supporting or even better. There is at the present time a very large portion of the population either hard of hearing or deaf; the exact number cannot be determined, although, owing to more modern means of treatment, the number at present is less than formerly. Of more importance than this treatment is the knowledge of most of the causes of hardness of hearing and the prevention of the same. It will be necessary therefore to call your attention to some of these causes and the essential points in their prevention or mitigation. Before doing so, permit me to refresh your memories as to the anatomy and physiology of the ears and their accessory structures. In order that one should hear, it is necessary that the sound be collected or gathered and for that purpose there is the pinna and the external auditory canal as far as the drum (Fig. 1, a and b); that these sounds be properly modulated and arranged for further conduction to the auditory nerve and for that purpose there must be a perfect vibration of the drum (Fig. 2), and the three little bones, hammer, anvil and stirrup (malleus, incus and stapes) (Fig. 3, a and b). The drum (membrana tympani) must have an equal air pressure on both its sides, namely, by way of the external auditory canal and by way of the Eustachian tube to the middle ear. (Fig. 4, a and b.) It is also essential that the small joints of the three bones have perfect mobility. Like any other drum, the human drum is tightened or loosened, according to the demand of certain sounds, and it is a semi-voluntary muscle system that performs that function, viz., the tensor tympani (Fig. 5) and the non-striped muscle fibers of the drum itself. (Fig. 6.) To control the severe action of the

\*Read before the University Extension Society, at Peoria.





Fig. 1a.

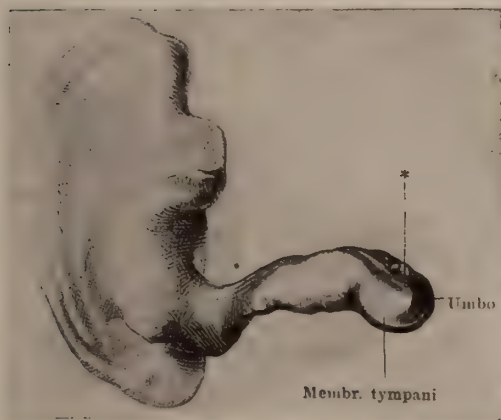


Fig. 1b.



Fig. 2.

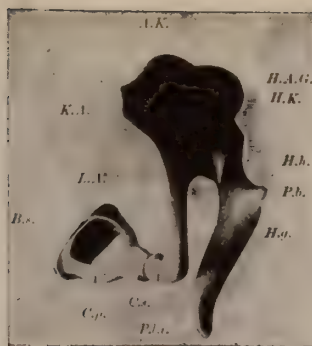


Fig. 3b.



Fig. 4a.

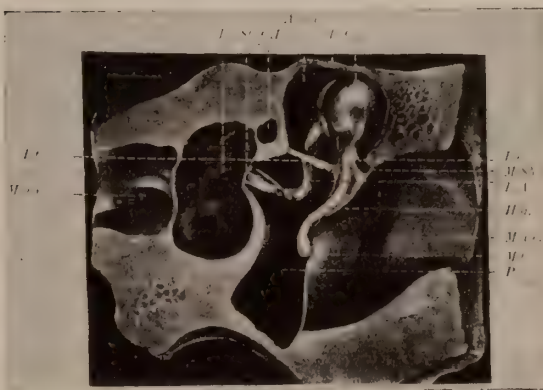


Fig. 4b.



Fig. 3a.

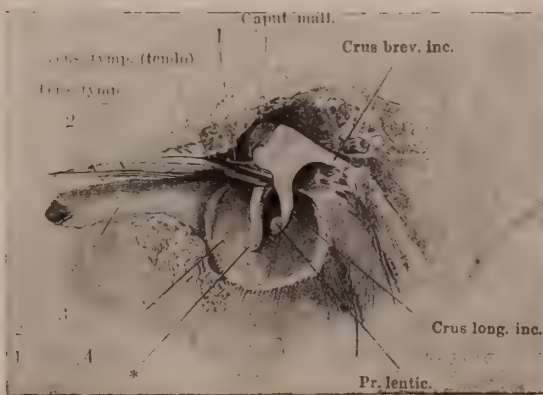


Fig. 5.

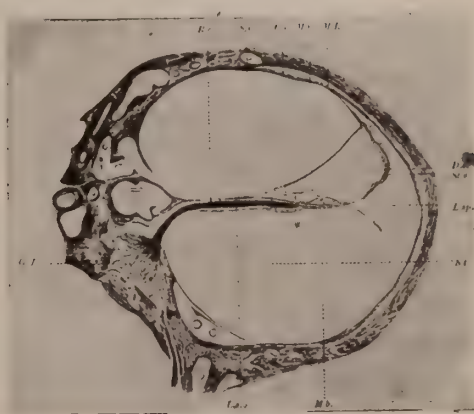
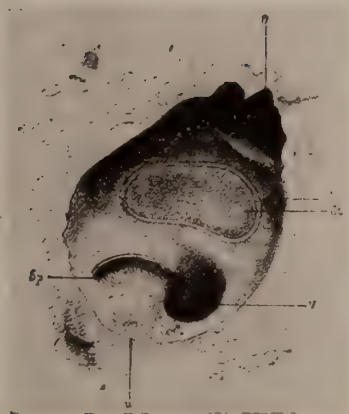
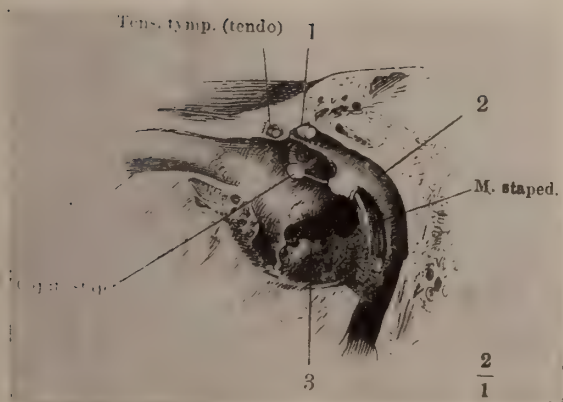
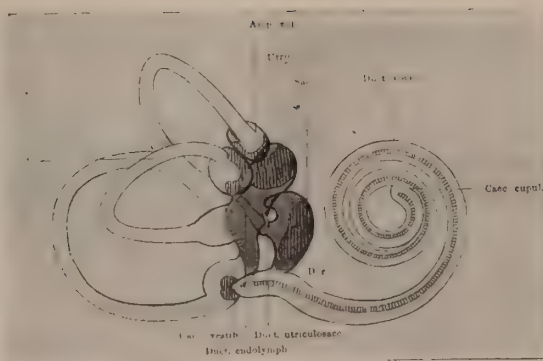
vibrating apparatus, in other words, a too great drive of the foot plate of the stirrup against the more delicate structures within the snail-like structure (cochlea), a guard muscle, namely, the stapedius (Fig. 7), is present. Where the stirrup fits there is an oval opening called the oval window, which is closed by the foot plate of the stapes. (Fig. 8.) This oval window opens into the most important part of the ear, namely, the internal ear. Slightly below this oval window opening and somewhat hidden is a round opening called the round window. (Fig. 8.) This window, which is also closed by a membrane (*membrana secundaria*), serves as a safety valve in case a sudden driving in of the foot plate should take place. The internal ear is made up of two parts (Fig. 9, a), known as the cochlear and the vestibular portions, the former controlling the function of hearing and the latter the function of equilibrium. Both are supplied by the same nerve, namely, the auditory or eighth pair of cranial nerves. There is still much not definitely proven about the function of the internal ear, as, e. g., concerning the saccule and utricle, the ductus endo-lymphaticus and ductus cochlearis, but there are some things definitely established, and that is the cochlea has to do with the function of hearing and the vestibule with the three semi-circular canals has to do with the equilibrium of the body. It is the cochlea that concerns us, particularly at this time. I will not go into any detailed description of this cochlea except to say that it contains the nerve of hearing. It is a tube of bone of very small caliber, lined by a membrane upon which is spread out the branches of the main trunk of the nerve of hearing. These may well be compared to the arrangement of the strings of a piano. In order that this tube of bone be accommodated in a small space, it is curved upon itself two and one-half times like a snail. (Fig. 9, b.) Some of these nerve endings have long fibers and some short, and accordingly are said to respond to certain tones in the musical scale. Through this canal (Fig. 10, a) runs the basilar membrane, dividing it into two divisions known, respectively, as the scala vestibuli and the scala tympani. This former division is again subdivided into the ductus cochlearis by another membrane known as Reisner's membrane. Below this is located a very complex nerve structure made up of the very

finest end filaments and finally into nerve cells of hearing. (Fig. 10, a.) From the margins of these specialized nerve cells one can see a sort of feelers or hairs, which are the highest specialized portions of this entire structure. This is known as the Organ of Corti. (Fig. 11.) Between the bony and membranous canal of the cochlea is a very small space (Fig. 10, a), filled with a secretion analogous to the cerebrospinal fluid; in fact, that is what it is, communicating with the arachnoid spaces within the cranial cavity. This fluid is known as the paralymph. Within the membranous canal is also a similar fluid communicating with the cerebrospinal system by means of the ductus cochlearis and is known as the endolymph. Within the ductus cochlearis is situated a homogenous structure, highly specialized for response to movement, known as *membrana tectoria* (Fig. 10, a), which is supposed to be the real irritant to the afore-said hairs of the nerve cells of the ends of the auditory nerve. It is the accurate action of this tectorial membrane on the particular hairs of the cells, corresponding to the sound produced, that is to explain the proper theory of hearing, t. i., the contact theory of Shambaugh. There is another much older theory of hearing, namely, the telephone theory of Helmholtz, which, however, has not any more adherents than the Shambaugh theory. In other words, we have no definite proof as yet as to how hearing is produced. After the nerve endings are irritated, it is supposed that sound impulses properly registered and adjusted within the cochlea, are transmitted centrally, that is, towards the brain, by the auditory nerve (Fig. 10, b), and registered on the cortex in the temporal region. From there communications pass to the other portions of the brain concerned in hearing, in other words, the area where judgment or knowledge of the sense of hearing is located. This, too, is not definitely established as yet. There is not any question from clinical experience that the hearing and sight are closely associated, but how this is effected is not definitely established.

The contributory structures to the organ of hearing are, (a) the nasal and throat cavities or structures contained therein, especially the Eustachian tube (Fig. 12), the mastoid cells (Fig. 4, b) and, (c) the system as a whole.

Having thus outlined the anatomy and physi-





ology of the organ of hearing in a very elementary manner, I believe we can discuss some of the varieties and causes (Fig. 13) of hard of hearing and deafness. The term "Hard of Hearing" is very *à propos*. Although it refers to the statement that it's hard to hear, it really describes the pathology of the great number of markedly or totally deaf. One (Fig. 14) of the most frequent causes is what is commonly known as *catarrh*. What actually happens is a low grade inflammation, due to a mild infection or irritation, long continued, within the Eustachian tube and middle ear. The end product is scar formation throughout its extent so that the Eustachian tube becomes narrow, the drum becomes thickened and in the joints of the ear bones, and about them is scar tissue which stiffens them. We must now go one step further, namely, to the original causes of the so-called *catarrh*. Sufficient time has already elapsed to prove in a fair number of cases that have been operated upon for adenoid disease, which means also the tonsils, that they do not develop this condition of the ears as readily as those not operated upon, and we have every ground to believe that the thousands of cases that have had their tonsils and adenoids removed, especially if early in life, will escape this malady. Another common cause of this affection is the sequence of an acute infection, namely, inflammation of the nose and throat, no matter whether associated with the exanthemata, acute rhinitis or tonsillitis. The thing that happens is that the rhinitis and the tonsillitis disappear, but the changes in the Eustachian tube and the middle ear do not. If at this time the patient gets proper attention he may escape the chronic catarrhal deafness. What is proper attention? At first non-surgical measures by skilled specialists, such as accurate inflation and medicinal application to the mucous membranes of the Eustachian tube and middle ear. Then, if there are chronic obstructive lesions in the nose or naso-pharynx, they usually have to be dealt with surgically. If the tonsils are diseased and they usually are, then they should be thoroughly removed. A very common cause for this type of deafness is the faulty method of blowing or cleaning the nose, especially if, as is so frequently done, the people use a nasal wash or douche, particularly the sniffing of water from the palm of the hand. Since the specialists as

well as the general practitioners recognize this deleterious action, we see less of the so-called acute infectious otitis media from this cause. I may be pardoned in describing the proper mode of blowing or cleansing the nose in order to show how easy it is to cause the inflation of the ear and thus carry the infective material from the nose to this place, when one is not familiar with this fact. There is no case on record from the animal hospitals of any of the lower animals having an otitis media, and yet we know that they have infectious diseases, especially of the nose. You all know the (Rotz-Krankheit-glanders) of horses, but they do not develop any ear complications. I was curious about this, so I went to the trouble and dissected a head of a horse, in special reference to the Eustachian tube and the ear, and I found an enormous width of the orifice of the tube in the back of the nose, but near the middle ear it narrowed down to almost the size of a human Eustachian tube. The same was true of the middle ear and drum; they are extremely small compared to the size of the animal. The animals do not have to blow their noses, at least do not use any handkerchiefs. This habit of culture, at least of civilization, using the handkerchief, is responsible for a great deal of trouble in the following manner. The people compress both nostrils and then forcibly blow the nose. At this same time, in order to get a great deal of force to the blast the soft palate is pushed up almost to a closure. What else can happen but that the air and secretions must pass into the Eustachian tube and the middle ear. I do not mean to say that one should not use a handkerchief, but one should not compress the external nose when blowing, and one should not use excessive force. If the secretions can not be cleared out easily, then wait until they become more liquid, or see if there be some chronic nasal obstruction which should have proper attention. Particularly during an acute rhinitis one should caution the people against blowing the nose forcibly and faultily. Many people in using the nasal douche force the solution into the Eustachian tube and middle ear, producing this chronic ear trouble, and hardness of hearing.

The *second* (Fig. 15) great form of disease causing hard of hearing and deafness, known commonly as running ears, occurs during the acute inflammation of the nose and throat, or





Fig. 10b.



Fig. 11.

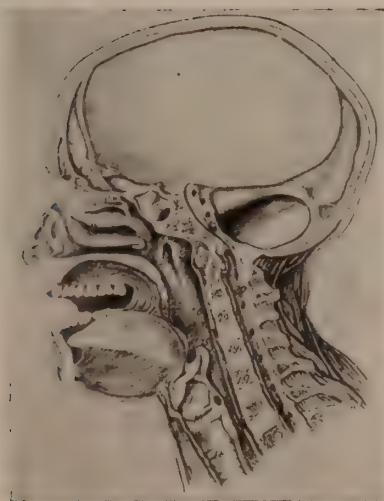


Fig. 12.

## VARIETIES.

- I. Dry catarrhal deafness.
- II. Running ear deafness.
- III. Family deafness.
- IV. Congenital deafness (Born deaf)
- V. Infant Deafness.
- VI. Occupational deafness.
- VII. Poisoning deafness.
- VIII. Injury deafness.

Fig. 13.

## DRY CATARRHAL DEAFNESS.

## Synonyms or other names.

- I. Chronic catarrhal inflammation of the middle ear.
- II. Chronic non-suppurative inflammation of the middle ear.
- III. Otitis media catarrhalis chronica.
- VI. Otitis media chronica non-suppurativa.
- V. Chronic adhesive inflammation of the middle ear.

## Causes.

- I. Tonsil and adenoid disease.
- II. After effects of an acute inflammation of the nose and throat not properly taken care of.
- III. Chronic nose and throat obstruction.
- IV. Faulty clearing or blowing the nose, especially after the use of nasal douche.

## Treatment.

- I. Remove the causes.
- II. Intelligent treatment to the ear and Eustachian tube.
- III. Educational by expression or lip reading.

Fig. 14.

## RUNNING EAR DEAFNESS.

## Synonyms. or other names.

- I. Acute otitis media suppurative.
- II. Chronic suppurative inflammation of the middle ear.
- III. Otitis media purulenta chronica.
- IV. Chronic otitis media suppurative.

## Causes.

- I. Associated or following an acute cold in the head.
- II. Associated or following severe sore throat.
- III. Associated or following the contagious diseases such as measles, scarlet fever, diphtheria, grippe and pneumonia.
- IV. Contaminating these acute cases in treatment.
- V. Poor or no care of the acute cases allowing them to become chronic.
- VI. Associated with chronic infection of the nose and throat.

## Treatment.

- I. Good care of the original cause and instructions in avoiding the blowing of secretions into the Eustachian tube when blowing the nose.
- II. Avoid contamination.
- III. Proper care of the chronic discharging ears. Eventually removing the infected and obstructing tissues of the nose and throat.
- IV. Radical operation of the chronic discharging ears when simpler treatment will not suffice.
- V. Educational by expression or lip-reading.

Fig. 15.

when a person has a chronic suppurative condition of the nose and nasal accessory sinuses and the infection extends or is forced into the tube and ear, and there is set up a violent inflammation which frequently leads to suppuration in that locality. Whether such processes cause chronic deafness or even complete loss of hearing depends almost entirely upon the management of this acute ear trouble. In former years most of these cases became chronic suppurative ears, which not only markedly reduced or destroyed the hearing, but many such cases developed brain abscess, meningitis and blood poisoning from sinus thrombosis. In the last ten years most of the chronic suppurative ears have been cleared up principally by a radical mastoid operation, and one does not hear so often the old remark which was given to a patient, "That as long as the ear ran there was no danger"; but look out if it stopped. It is the duty of every physician to see that this great menace to health and life is done away with by proper treatment, and at the same time prevent a larger group of people from becoming hard of hearing or deaf.

The *third* (Fig. 16) great type of ear disease causing hard of hearing and deafness is one of comparatively recent information, although it has been recognized as an entity for a long time. It used to be called "family deafness," because it occurs in groups of families and appears to be hereditary. We speak of it now as otosclerosis, which literally translated means hardness of the ear. It is also very frequently confounded with sclerosis of the middle ear, the condition already described as chronic catarrhal deafness, by men not versed in the specialty. It is absolutely of a different pathological process. While the ultimate result in this process is hardening of the bone of the cochlea, particularly in the larger portion of the coil near the oval window or foot plate of the stirrup, it is a softening process in the beginning and is known as spongification of the labyrinth. It is not at all an inflammation, but is a retrograde change in the bone from the well formed, back to the embryonal stage. What the cause is, no one has yet proven. I wish to claim with hesitancy and modesty a theory, that it is a change due to the disturbance of the glands of internal secretion, particularly of the hypophysis and adrenals, in their deficiency or hyposecretion. I base this theory upon the com-

parative study of other bone diseases claimed to be due to the same process of disturbance of internal gland secretions. Such diseases are acromegaly, osteomalacia and the normal change in the early months of pregnancy. In these the bone shows the same microscopic changes as in otosclerosis. Accordingly have I given these patients hypophysis and adrenal gland by injection and feeding with no idea of a cure but to arrest the disease. Practice for the past three years appears to bear out my theory. These patients usually begin to lose their acuity of hearing early in life, that is at the time of puberty and as a rule go right on until complete deafness or nearly so takes place. The recognition clinically of this disease is usually that none of the catarrhal signs are present, the drum looks normal, in fact often shows a pinkish color through the drum. I have made a roentgenographic study of a number of these cases, especially early ones, and found that one could demonstrate on an x-ray plate this softening process in that the calcium salts are dissolved in comparison to other forms of deafness and the x-ray picture shows the difference in density.

These otosclerotic patients complain very much of harrassing noises in the ears and the deafness is not improved by inflating the Eustachian tube or for that matter by any other mode of treatment. As stated before it is frequently a family disease, so that there may be two, three or more develop the disease in one family. If the father and mother have the disease or give a family history of it, then their children are much more liable to develop it. Some of the states have recognized from this fact a possibility of ridding the race of this terrible malady by advocating and passing laws to prevent marriage, especially intermarriage of otosclerotics. This has not met with great success, however, and the argument is that some very great men and women, so history tells us, were otosclerotics, e. g., Beethoven, and it would have been a pity if he or others equally as great had not been born. In the conclusions of my talk I will speak of a method of treatment in all kinds of deafness, which will give some encouragement to these poor individuals, and which may substantiate the argument against the prevention of marriage of otosclerotics.

The *fourth* (Fig. 17 and Fig. 18) type of ear disease causing marked loss of hearing and deaf-



## FAMILY DEAFNESS.

## Synonyms or other names.

- I. Oto-sclerosis.
- II. Spongifying labyrinth diseases.

## Causes.

- I. Not known.

## Treatment.

- I. Early education by expression or lip reading.
- II. Stop the progress by the trial of adrenalin and pituitary gland extracts.

Fig. 16.

## OCCUPATIONAL DEAFNESS.

## Synonyms or other names.

- I. Boiler makers deafness.
- II. Gunners deafness.
- III. Caisson deafness.
- IV. Chemical deafness.

## Causes.

- I. Intense hammering in the boiler makers occupation.
- II. Explosions and vibrations in the gunners occupation.
- III. Vacuum in tunnels.
- IV. Poisons getting into the system or direct erosion of the tissue.

## Treatment.

- I. Change of occupation in most of the conditions.
- II. Protection against impacts in the gunners and boiler makers occupation by wearing ear plugs.
- III. Gunners keep mouth wide open during explosions.
- IV. Antidotes against poisons.
- V. Educational by expression or lip reading.

Fig. 19.

## CONGENITAL DEAFNESS ( BORN DEAF ).

## Synonyms or other names.

- I. Deafness of the New Born.
- II. Deaf mutism.

## Causes.

- I. Unknown.

## Treatment.

- I. Educational by expression or lip reading.

Fig. 17.

## POISON DEAFNESS.

## Synonyms or other names.

- I. Toxic deafness.
- II. Chemical deafness.
- III. Syphilitic deafness.
- IV. Neuritis.

## Causes.

- I. Almost any poison particularly that following infective fevers as typhoid, scarlet, diphtheria and blood poisoning.
- II. Lead, arsenic, antimony, mercury, quinin.
- III. Acids particularly sulfuric.
- IV. Alcohol and tobacco.
- V. Syphilis and malaria.

## Treatment.

- I. Proper care of the original infectious diseases.
- II. Avoidance of the chemicals and proper antidotes.
- III. Stop smoking and drinking.
- IV. Specific treatment for syphilis and malaria.
- V. Thorough elimination.
- VI. Educational by expression or lip reading.

Fig. 20.

## INFANT DEAFNESS.

## Synonyms or other names.

- I. Deafness acquired in Early infancy.
- II. Deaf mutism.

## Causes.

- I. Usually following meningitis, either epidemic, septic or syphilitic.

## Treatment.

- I. Flexner Serum if of the Epidemic form.
- II. Drainage of the cerebro-spinal fluid and medicine if septic.
- III. Medicine if syphilitic.
- IV. Educational by expression or lip-reading.

Fig. 18.

## INJURY DEAFNESS.

## Synonyms or other names.

- I. Traumatic deafness.
- II. Pressure deafness.

## Causes.

- I. Fracture of the base of the skull, especially through the temporal bone.
- II. Meningitis, brain abscess and brain tumors.

## Treatment.

- I. Removal of an abscess or tumor.
- II. By medicines especially if meningeal due to syphilis.
- III. Educational by expression or lip-reading.

Fig. 21.

ness is that congenital or acquired in infancy, these patients being referred to as mutes or deaf-mutes. The cause of this unhappy condition of the congenital deaf is not known, but post-mortem examination often reveals the complete absence of the entire, or a portion of the auditory nerve or its end organs. In some of the cases there were found islands of normal nerve structures and these findings lead to the thought of possible education and stimulation of this remnant of the hearing organ. In the acquired deafness early in infancy it is usually a meningitis, which extends through the internal auditory meatus, into the labyrinth and completely destroys it. It is only in the treatment of the meningitis, especially if it be the epidemic form, that one may hope to prevent this deafness by the intraspinal injection of Flexner's serum. In the cases of syphilitic meningitis and labyrinthitis in infants, one may hope for much better results by proper anti-syphilitic treatment.

The *fifth* (Fig. 19) type of ear disease causing marked loss of hearing and deafness is one due to certain occupations. Any occupation where there is a great deal of noise produced as e. g. in a foundry, tends to affect the hearing very much. All of you are familiar with the deafness from the explosion of guns and especially on board of a battleship. It is well known to the gunners that they must keep their mouths wide open during an engagement in order to prevent the rupture of the drum, and the Japanese in their war with Russia claimed that the little rubber bags filled with alcohol which they wore in the external auditory canals prevented considerable damage to their gunners' ears. What modern device is used in the present conflict by the gunners of the large field guns by the various warring factions is not as yet made public. Alexander and others have shown by experiments on animals that by firing off revolvers at close range to the animal's ears minute hemorrhages in the internal ear occurs.

I have proven these experiments correct and went a step farther by trying to prevent these changes. Filling the external auditory canal from the drum membrane to the external auditory meatus with paraffin that has a melting point of 80° F. and then exploding a 45-caliber revolver from one to six times in front of this filled ear, I found no hemorrhages in

the internal ear nor perforation of the drum membrane.

Another occupational disease in which deafness follows is caisson disease, where people work in deep tunnels in which there occurs a marked vacuum in the cavity of the middle ear and which produces hemorrhages in the labyrinth. Shorter hours in the tunnel and foundries are recommended. Occupations in which the individual comes in contact with certain chemicals, as lead, phosphorus, zinc and especially in fumes of sulphuric acid and arsenic have a tendency to affect the nerves of hearing by producing toxic neuritis. The giving up of such occupations is the only possible chance of stopping the progress of this disease.

The *sixth* (Fig. 20) type of ear diseases causing marked loss of hearing and deafness is the toxic form not due to occupation but usually secondary to other systemic diseases. Syphilis is by far the greatest factor and, as mentioned before, it can follow a syphilitic meningitis or one may have a true syphilitic bony involvement of the temporal bone. It has been my experience to find a marked positive Wassermann of the cerebrospinal fluid when that of the blood was negative. The treatment is very clearly antiluetic. In this connection one can mention the many nervous diseases claimed to be of syphilitic origin as tabes dorsalis, cerebrospinal lues, general paresis, etc., in which deafness is quite often a marked symptom. The change in the auditory nerve is analogous to that in the optic nerve in these diseases, and appropriate treatment to these diseases will suffice for the ear symptoms. Associated with cardiovascular changes, as general arteriosclerosis and chronic intestinal nephritis, one frequently encounters auditory nerve lesions. These are spoken of as apoplectiform labyrinthitis, characterized by what was or is still known as Meniere's symptom complex such as dizziness, vertigo, nausea, deafness and marked tinnitus aurium. These symptoms are supposed to be due to minute hemorrhages into the labyrinth. Appropriate treatment to the general condition is indicated. Associated or following acute infectious diseases as grippe, diphtheria, typhoid, mumps, scarlet fever and other septic infections may occur a deafness that may be irreparable, by a neuritis. Chemical substances given as remedies as quinine,



arsenic, particularly salvarsan, are recorded as causing deafness or hardness of hearing by producing a toxic neuritis.

Alcohol and tobacco may cause hardness of hearing and deafness the same as they do blindness, by a toxic neuritis.

There are a number of cases of deafness reported following malarial fever, but in most of these cases large doses of quinine were administered and that may have caused the deafness.

In conclusion (Fig. 21), other types of ear conditions causing marked loss of hearing and deafness are the traumatic ones and those associated with surgical intracranial conditions as brain abscess, meningitis and brain tumors, especially at the pontine cerebellar region. In the former condition, namely, trauma, it is the fracture of the base of the skull through the petrous portion of the temporal bone that is responsible for the most frequent traumatic cause. During operations on the mastoid one may injure the horizontal semicircular canal or the cochlea or displace the stirrup and set up an infection in the labyrinth and thus produce complete deafness.

The treatment is usually expectant. In cases of deafness associated with or due to the surgical intra-cranial conditions it is their early treatment that may save the life of the nerve of hearing.

Having thus covered very superficially the most frequent and important cases of hardness of hearing and deafness with the suggestions of what is expected to be done it now remains for me to bring before you the main object of my paper, namely, the education of the public in these matters, particularly 1 as to the prevention of these troubles. 2 As to the possibilities of educating the hard of hearing and the deaf.

This means that a schema of a public lecture be prepared, with illustrations. Such a schema and illustrations shall then be furnished to any reputable physician and after his or her delivery of such a lecture either be returned to headquarters or forwarded to another lecturer as directed. Such propaganda would produce marked good and is nothing less than what the medical profession should do in this general movement of education in public health. These illustrations can be cut out, mounted and used

in an opaque projectoscope considerably magnified.

*Mr. Chairman, Ladies and Gentlemen:* Consider yourselves now an audience of lay people and consider me a lecturer such as any of you would be; I do not intend to take up your time with a complete lecture, but would like to give some hints about the formulation of such a talk. It was my intention when I prepared this paper on the "Responsibility of the Medical Profession in the Management of the Hard of Hearing and the Deaf" that it would serve as a source of information to the lecturer and that he should form his own lecture for each individual occasion, but that he should adhere closely to the fundamental instructions to the public; that is the reason why so many commonplace terms are employed in this paper. A lecturer would start by making a general statement about the public health propaganda as advocated and enhanced by the American Medical Association, calling attention to some of the achievements by some of the committees, especially the general hygiene, pure food, drainage and sanitation of countries, and in the field of medicine, the conservation of vision committee, which has done noble work. Then lead on to the subject in question, namely, "Conservation of Hearing and the Education of the Deaf."

Tell them in plain language about the hearing and about the construction of the organ of hearing and demonstrate by lantern slides the points that were already made to you, telling in simple language the physiological action of each individual structure. It is well while demonstrating the anatomy and physiology to mention some practical points in the causation of a disease and its prevention or treatment. Having covered the anatomy and physiology you proceed to give some of the commonest causes of hardness of hearing and deafness, showing lantern slides as to their numbers and frequency and to their importance (Fig. 13). Then take them up one by one and go somewhat into detail as to their prevention and treatment (Figs. 17 and 27).

Finally tell them about the tremendous advance that is being made in the education of the deaf by what is known as lip reading, or better still, expression reading. That the old sign method of education of the deaf is rapidly being replaced by this newer and better method of ex-

pression reading, since these deaf individuals learn how to speak and when perfectly educated can often times not be distinguished from a normal hearing person. That in the cases of hard of hearing, especially if one gets the assurance from a physician that it is a condition that will probably progress and get worse or not improve, the individual should take up this expression reading, while still possessed of hearing sound, although not understanding the language. The reason for this is that they will associate sound and expression and thus will make much more progress than if they wait until completely deaf.

Tell of a group of hearing people conversing with a very hard of hearing or deaf individual in their midst and describe the dull, apathetic, morose, nervous, irritable, embarrassed expression on that individual. Then describe the same surroundings with a deaf or markedly hard of hearing individual, but who has been educated in expression and lip reading and note the absence of all the disagreeable expressions. Contrast deaf and dumb children before they are educated and after, and call attention to the happy faces of the latter. Give some statistics of how the educated deaf have found places in life which would have been absolutely impossible without training, and describe a group of such individuals at work. Then tell of public and private schools where such education is carried out. Give some idea as to the cost of such mode of education and close with an appeal so strong that as a result of your lecture you have started that particular community to thinking, talking and acting. Thus you and I will have done a little to advance this object of progress and civilization.

2551 North Clark St.

## PROGNOSIS AND TREATMENT OF DIABETES AS INFLUENCED BY RECENT STUDIES.\*

SOLOMON STROUSE, M. D.

CHICAGO.

From the Medical Clinic, The Michael Reese Hospital.

One of the joys to which I have looked forward for some time has been this visit to Ann Arbor. I shall do my best to bring before you tonight in a rambling way some of the newer tendencies

in diabetic studies as viewed by the clinician. I shall certainly not attempt to discuss the overwhelmingly large literature on the subject; rather shall I gather under a few main headings certain phases of the subject in which I have been interested and on which I have worked.

From a clinical point of view diabetes is still as it has been for years, a disease probably pancreatic in origin, the therapy of which is limited to dietetics. Attempts at solving the mysteries of the disease have followed two main lines of research—that of pathological physiology into the ultimate cause and that of physiological chemistry into the intermediate metabolism. Studies on therapeutics have aimed at a fundamentally rational procedure based on the knowledge obtained in the research laboratories.

Except for the Von Noorden school who have contributed to the idea that most if not all of the ductless glands play a role in normal and pathological carbohydrate physiology, the tendency is certainly growing stronger toward the assumption of the pancreas as the sole etiological agent in diabetes. Despite Cecil's statistics on postmortem findings in human diabetes, the disease following pancreatectomy in dogs is so similar to diabetes in man that one is almost forced to think of the canine disease as a reproduction of human diabetes. Homan's studies on the analogies between the histological pictures presented by the pancreas in canine and in human diabetes when special histological technique is employed are striking to say the least, and correspond in full with Allen's studies on the same subject. Allen's success in producing a disease of any severity desired by mathematical reduction of the size of the pancreas, and likewise his success in treating human diabetes along lines identical with those followed in the disease in dogs, offers to my mind the most convincing proof yet established as to the identity of the disease following pancreatectomy in dogs and diabetes in man. Yet so far the final gap is not bridged, and the argument that one can not interpret animal experiments in terms of human disease is not fully answered.

From a chemical standpoint, the amount of work done on the theory of the disease is simply bewildering. The *Journal of Biological Chemistry* alone in 1914, 1915 and up to recently in 1916 has published more than thirty articles on

\*Read before the Washtenaw County Medical Society at Ann Arbor, Mich., May 26, 1916.



the various phases of intermediate metabolism. Fascinating as are these studies and fundamentally important as are the results derived from them, we can not tonight devote much attention to them, first because an intelligent discussion of most of these contributions would carry us far from the subject selected; and secondly because as yet the clinic has not learned the practical lessons which must ultimately arise from the solution of these theoretical problems.

Problems of interest from every standpoint have arisen around the determination of blood-sugar. Formerly when such determinations involved the use of so much blood as to prevent repeated examinations, our knowledge of the subject was derived from isolated examinations. Normal values were not definitely understood, especially the wide variations reported by different observers, until technical improvements made consecutive study possible. Such technical opportunities are offered now by many methods. Bang proposed a micro-method in which the sugar was quantitatively determined in a few drops of blood; Lewis and Benedict, Schaffer, Kowarski, have all advocated methods easily applicable to the clinic. I have been working steadily with the Kowarski method with slight modifications, and I have obtained some results in normal and pathological conditions which are interesting and important.

As I now use the method the technique is exceedingly simple. Into an ordinary centrifuge tube is put 0.5 ccm. 0.2 per cent. sodium fluoride, 4 ccm. distilled water, and approximately a knife point of powdered Rochelle salts. This is taken to the bedside, and by means of a tuberculin or other well graduated syringe with a small caliber needle 0.5 ccm. blood is drawn from a convenient elbow vein and discharged into the centrifuge tube; making the total volume in the tube now 5 ccm. This is gently shaken, the albumin precipitated by the addition of 5 ccm. of dialyzed iron solution (Merck's *Liquor Ferri oxydat. dialysat.* 5 per cent.), the whole well shaken until homogeneous and then centrifuged. The sugar content on the clear supernatant fluid is determined by reduction of an alkaline copper sulphate solution to which has already been added a weighed amount of dextrose. This principle of adding dextrose reduces the percentage error, and is one of the most valuable parts of the procedure.

The remainder of the technic follows Bertrand's method and need not be elaborated now. Those interested will find a complete description in a previous article. (*Bull. Johns Hopkins Hosp.*, June, 1915.)

The determination of an exact meaning for the normal in man was considered necessary in view of the wide variations published in the literature. In 1915 I published with Stein and Wiseley the results of a long series of studies, in which we defined a normal curve. It was shown that variations between 0.05 and 0.12 per cent. occurred and that these variations depended not only on the individual but on the time of day, and the carbohydrate content of the food. With healthy adults on an ordinary diet containing carbohydrate the daily blood sugar curve follows the same course and varies only in the height of the variations. The lowest value is obtained just before meals, and a post-prandial rise is observed one hour after meals containing carbohydrate.

The importance of noting all time relations with especial reference to food when making blood sugar determinations impresses itself on one when studying pathological blood. If in a normal person the upper level of blood sugar is obtained after ingestion of carbohydrate, it seemed obvious that the same factor will play a much more important role in the unstable carbohydrate metabolism of diabetes. By the same logic a mild diabetic might show a normal value when fasting. In a series of as yet unpublished observations on blood sugar in diabetes, attention was paid to the food and time factors. Our results so far are in striking contrast to the old dogma that successful therapy connotes the attainment of a normal blood sugar level. In our cases where consecutive study has been possible it has been demonstrated that except in the mildest cases of diabetes it has not been possible to maintain blood sugar at a normal level. Even under starvation treatment, as Allen and Joslin have stated, hyperglycemia persists. In some of my cases a temporary fall to normal was seen, to be followed immediately by a more or less marked hyperglycemia when carbohydrates were added to the diet. Usually, however, the hyperglycemia was less marked after treatment than before.

Blood sugar studies have been essentially valuable also in diagnosis, and although diagnosis is not the subject for discussion, a word on the

glycosurias of pregnancy may not be amiss. Lack of careful study of patients showing a reducing substance has confused and retarded the advance of better therapy. The glycosurias of pregnancy have been a clinical puzzle of some magnitude. Within recent days, thanks to blood sugar determinations, it has been shown by numerous investigators that most of these glycosurias are not associated with hyperglycemia, and are therefore probably renal in origin. The therapeutic and prognostic importance of such observations is at once apparent.

It is a long step from the "color guess" quantitative determinations of ketonuria through the simple determination of ammonia and the quantitative determination of urinary acetone bodies to a clinical method whereby the actual alkali starvation of blood plasmas can be accurately measured. The theories of acidosis are still unsolved, but the work of Sellards on the urine, of Peabody and of Joslin on respiratory quotient, and particularly of Van Slyke on carbon dioxide reserve of the blood, have advanced our therapeutic possibilities tremendously. The latter method, dealing with simple apparatus, a small amount of blood and taking only about one-half hour for its accomplishment, strikes one as being most easily applicable to the clinic, and of being a most valuable, practical aid to both prognosis and treatment. Stillman has only recently reported on its use as a guide to the fasting treatment, and on the basis of his work divides diabetes into four main headings: 1. Those cases which maintain a normal  $\text{CO}_2$  curve (mild); 2. Those which recover while fasting from acid intoxication, in some instances verging on a coma; 3. Those which show a constant low-grade acidosis, as indicated by subnormal  $\text{CO}_2$  reserve, and increased  $\text{NH}_3$  excretion; 4. Those which develop acidosis while fasting although previously no acidosis was evident. "When the degree of acidosis is determined daily by the method described, experience so far indicates that all cases of diabetes may be treated by the fasting method safely and with benefit."

These few notes on the technical simplicity with which the course of the disease, its treatment especially, may now be followed, are sufficient to carry us over the remainder of the work to the newest venture in diabetic therapy—Allen's starvation method. Joslin, one of the most en-

thusiastic supporters of Allen's work, writing in October, 1915, says, "The advance in the actual treatment of diabetes mellitus during the twelve months just passed has been greater than in any year since Rollo's time . . . and this improvement in treatment comes . . . as a result of patient scientific experimentation, which has been based upon the work of the foremost investigators in both laboratory and clinic."

Briefly summarized, Allen's method of treating diabetics rests on his experiments on depancreatized dogs in which he found that primary starvation and a continued low level of nutrition prolonged the life of the animals, whereas high caloric feeding sufficient to maintain nutrition was a sure method of increasing the severity of the symptoms. Allen had the courage to apply these principles to the human. He starves all patients until they are sugar free, then he slowly adds protein, fat and carbohydrate to the diet, never allowing glycosuria to return and never allowing the patient to reach his former level of metabolism. If sugar should reappear starvation is again resorted to—partial or complete—until the glycosuria again disappears. Acidosis is no contra-indication to the treatment; in fact this form of treatment seems to act best in the more severe cases.

Now the question is pertinent: wherein does this differ from previous methods? We all know of the "hunger days" of Naunyn, the "vegetable days" of Von Noorden; we know that Von Noorden advises complete starvation in the treatment of some cases of acidosis and diabetic coma; we know that some cases of diabetes made sugar from protein; that excessive fats might produce or intensify acidosis; but we used our knowledge only intensively in selected cases. We did not know that a diabetic would react to prolonged starvation by reduction of both glycosuria and acidosis, and the continued maintenance of a condition of under-nutrition is, as far as I know, a radical departure from current medical practice.

When we consider that a sure way of producing acidosis in a normal person is by starvation and under-nutrition it seems beyond conception that starvation and under-nutrition should produce such wonderfully good results as have been described. The thought behind this principle of treatment is the attainment of functional pan-



creatic rest. If the pancreas in diabetes is "over-worked" we should relieve it, as we give rest to a diseased heart or to a gastric ulcer. To rest the pancreas we must eliminate all its activities, which would include its normal capacity for furnishing ferments for protein, fat and carbohydrate metabolism. Diabetes, especially in its later stages, is certainly more than a disturbance of carbohydrate metabolism, so that the differences between older methods of carbohydrate deprivation and Allen's of complete starvation may be really differences in degree rather than principle.

This principle of pancreatic rest is the fundament of Allen's method of treating diabetes, and should never be lost sight of during treatment. Clinical evidence of proper treatment of diabetes mellitus is obtained in the absence of glycosuria and acetonuria, and if this newer treatment permits such results it will have accomplished its end. Does it? My own experience with the method is broadening all the time, and the more I use it the more enthusiastic do I become, especially in the severe cases. In the mild cases of diabetes in which simple reduction of carbohydrate in the diet renders the urine sugar-free without producing an acetonuria, starvation I consider contraindicated for two reasons: 1. There is no need to employ drastic procedures where simple methods do the same work. 2. Starvation is not without dangers in such a person, who more nearly approaches the normal than the pathological. If starvation had any specific effect in raising carbohydrate tolerance it would be indicated even in the mildest cases, but no one has claimed any such effect.

But the milder cases should receive the benefit of a lower level of nutrition, and I have found it of advantage to treat such patients with a graduated food schedule. This beginning on Monday with merely eggs and vegetables ascends daily through the scale of increased carbohydrates to a maximum on Friday, Saturday and Sunday. This practice has several advantages, not the least of which is the psychic influence of greater expectations on the willingness to stick to a cure. Also the principle of *rest* is continuously carried out on the "Blue Monday," and one other principle is brought into use, namely, *gradual* addition of food. Although the literature does not emphasize particularly the importance of gradual

changes in diet except in regard to the danger of producing coma by too sudden withdrawal of carbohydrate food, I have several times seen bad results from too sudden a dietetic change of any sort. During the period when Von Noorden's "oat-cure" was popular I saw several patients react to the gruel, with an increased excretion of acetone and sugar, whereas the same diet given later but *more gradually* was well borne. I have seen sugar appear from the sudden addition of an amount of protein which later gradually added to the diet was well borne; and we all have seen increased ketonuria from too sudden ingestion of fats. The reverse also holds true. Recently I saw in consultation a young lady aged 20, who on the day of my visit was passing one pound of dextrose and some acetone. Yielding to the wishes of her physician I ordered starvation—and got acidosis. The same patient later after food had gradually been reduced was starved with a brilliant result.

Insistence on the value of gradual changes in the diabetic dietary may seem disproportionate to its importance, but I am sure that much harm is done to diabetics by sudden changes. Formerly improper use of oat gruel, now improper application of the starvation method, not only may harm the patient but will certainly oppose a barrier of misunderstanding against the advance of better therapeutics. Especially important it seems to me is this principle of gradual changes in diet when one considers the high protein ratio still commonly given the diabetic. Patients are continually seen whose glycosuria the physician is unable to reduce merely because he has overwhelmed the organism with protein. This leads us somewhat out of order but logically to the question of protein in the diabetic dietary. The inability of the diabetic organism to utilize protein has been considered an index of severity, but I have often wondered whether it has not been rather an index of treatment. Most of the patients who make urinary sugar from protein in the food have been receiving a protein-high diet, and Allen's dogs well show the harmful effect of such a diet on the progress of the disease. One patient seen last summer throws light on this question. A girl, aged 9 years, having the first symptoms of diabetes about February, 1915, was not correctly diagnosed until July. At that time carbohydrate was removed from the

diet, and a large amount of meat was given. The glycosuria remained intense and when she arrived in Chicago in September a plain office specimen showed about 4 per cent. sugar. She was easily made sugar free, but it was soon apparent that the addition of even 10 gms. animal protein (fish, chicken or red meat) caused glycosuria. Egg and vegetable protein were utilized, but it was necessary to keep her on a meat-free diet for four months. In December tolerance for protein was again established, and now she is utilizing 75-90 gms. meat a day. Is this a case where proteolytic function of the pancreas was damaged by excessive use, and where rest finally restored functional activity? Only this month I saw a man who had been under treatment for four months, most of the time on a carbohydrate-free, protein-rich diet, with a constant glycosuria and almost constant ketonuria. There was much loss of weight, and it looked like a severe case. However, hospital care and starvation made him sugar-free in five days, and now he is progressively improving, gaining weight, sugar-free and acetone-free, and utilizing approximately 80 gms. protein, 70 gms. carbohydrate and 150 gms. fat daily. Surely this must be considered an example not of a necessarily severe diabetes, but as a diabetes being made severe by excessive protein intake.

Returning now to the Allen method of treatment, it is undoubtedly so well known that details of the technique are unnecessary. Certain rules may be pertinent. I doubt greatly the wisdom of placing all patients *immediately* on starvation, and I consider it advisable to place the patient first on the standard test diet containing known amounts of protein, carbohydrate and fat. In one or two days judgment as to the severity of the disease can be formed, and starvation can be more safely carried out than if the patient is starved without any knowledge of previous treatment. The severe cases with acetone, diacetic acid and sugar respond to starvation miraculously. Usually in from one to three days there is a complete disappearance of all urinary signs; occasionally an increasing acidosis warns one to give food, but most often in such cases subsequent starvation is better borne. The longest I have starved a patient is three days, and in only two instances was it necessary to repeat the

performance. Others have starved patients for much longer periods. The proper addition of carbohydrate, fat and protein to the diet now requires the greatest care, and individual tolerance for each must be established. In one severe case a too sudden increase of 20 gms. butter caused glycosuria and marked acetonuria; in another, as mentioned above, sugar appeared whenever animal protein was added. One young woman remained sugar-free and acetone-free as long as her carbohydrate was confined to fruit and vegetables, but she could not tolerate any other form.

This method of treatment does not bring blood sugar to normal and does not immediately increase tolerance; but it does better than any other procedure I know put the patient in a position where he can live comfortably, and it practically puts an end to the dangers of diabetic coma. Since Allen's method has become the method of choice at the Michael Reese Hospital only one case of coma has come to my notice, and that was a patient of mine, a pregnant woman, whose idea of treatment was to eat whatever she wished and take the consequences. The consequences were a severe acidosis and a four-day fight against death. One patient was progressively weakened by the treatment. A 28-year-old man whose disease was of one year's duration and who had lost 35 pounds before coming to me could be made sugar-free only at the cost of so much weight and strength that he rebelled and I did not have the courage to proceed further. He left my care only slightly improved, and much weaker. In the light of subsequent experiences I feel that even he could have been greatly benefited had I persisted in treatment. This is the only patient I have seen in the past year who has not been made both sugar-free and acetone-free.

As regards ultimate results not much can be said as yet. Keeping the patient on a low level of nutrition, constantly avoiding ketonuria and glycosuria, seems to offer more hope of increasing tolerance than methods formerly employed. Of three children all are alive and all have a decidedly increased tolerance. One girl aged 20 who at first showed sugar from vegetables containing 5 per cent. carbohydrate, five months afterwards was able to handle in one day 75 gms. cooked oatmeal, 20 gms. bread, 30 gms. potato



and 20 gms. of vegetable and fruit carbohydrate. These patients when once freed of sugar are all treated in the manner already discussed under mild cases, and surely any increased tolerance is not due to the method of making them sugar-free, but to the *means* of keeping them so; which, if I may be permitted a reiteration, is synonymous with pancreatic rest.

Too much attention can not be paid to the details of the after-treatment. Until there is a general appreciation by the medical profession of the principles involved much reliance must be placed on intelligent co-operation by the patient. Usually the spectacular results obtained under treatment make the patient willing and eager to learn the game, and it is a simple matter to teach him how to use food tables and how to test urine for sugar and acetone. Careful explanation of all moves made while the patient is being treated, a copy of the diets from day to day, Joslin's little pink card, Atwater's tables and the means of figuring equivalents in food values usually suffice. A strict observance of the daily schedule as outlined; the removal of carbohydrates upon the appearance of glycosuria; periodic examinations of the urine by the physician; and an occasional return visit to retest tolerance give surprisingly good results even when local medical advice can not be obtained. The use of bicarbonate of soda as a routine has practically been discontinued, and in the more recent cases I have not hesitated to starve a patient without piling soda into his system. Alcohol still has its role, and during the starvation days especially the patients often find their highballs most gratifying. Exercise is begun as soon as the initial weakness from the starvation wears off, and later forms part of the patient's daily routine of life.

Before concluding, a few words on the interrelations between diabetes and surgery may be in order. I have just finished a study of the literature on this subject as well as an analysis of the records of the Michael Reese Hospital. Whether the surgical indication be caused by the diabetes or by some non-diabetic disease, all cases naturally group themselves into urgent surgical necessities or cases in whom operation may wait. In the former class of cases the best results can be hoped for only by most rigid surgery and post-

operative dietetic care; but the second group offers a rare opportunity for team work between internist and surgeon. When the patient can wait for his operation he should be prepared, and the modern methods of handling diabetes promise not only good preparation but also tests for the potential dangers of the operation. The value of such preparation has abundant theoretical and statistical proof which can not be detailed now, except to say that prepared cases show a mortality about 50 per cent. less than untreated cases. But it is well to emphasize that exact information as to the status of operations on the diabetic can not be obtained except when such patients are under ideal standards of medical as well as surgical treatment.

To summarize this rambling discourse, allow me to refer to an unprejudiced analysis of the diabetic records of the Michael Reese Hospital. Such records being expressions of treatment by many men are not as scientifically valuable as those of a single observer (e. g., Joslin); but as indicating the trend of the times, as showing increased knowledge and better methods, they possess the value of representing group opinion. From 1899 to 1907 there were 45 cases treated with a hospital death rate of 20 per cent., from 1908 to 1912 147 cases with a death rate of 23 per cent., from 1913 to 1915 102 with 17.6 per cent. deaths. So far in 1916 there have been about 55 cases with one death, and this includes at least 8 operations. The patient who died had a nephrectomy for an infected kidney and was half dead when admitted. Of course, in interpreting these figures we must remember that it is the fashion nowadays to send all diabetics to the hospital, which means that in the later years many more mild cases are included than in earlier times, when only the most severe entered the hospital. But to anyone actually seeing results there can be no doubt that at present lives are saved, that acidosis and other severe diabetic complications are becoming less common; and that these facts are not the results of chance, but are the effect of the influence of newer methods of study on treatment. I think we can fully agree with Joslin that never was the prognosis of the diabetic as favorable as it is now.

104 South Michigan Ave.

## THE RELATION OF THE ROENTGENOLOGIST TO THE PHYSICIAN AND SURGEON.\*

E. BLAINE, M. D.,

Roentgenologist to Cook County Hospital and West Suburban Hospital.

CHICAGO.

The present day attitude of the average physician and surgeon toward the roentgenologist is not what it should be. A careful consideration of the question will reveal to the fair minded medical practitioner that this statement is true and that an injustice is being done.

This attitude is out of keeping with the usual scientific atmosphere with which medical work of the better order is associated, and often is unethical, as will be shown. Most physicians are not wilful in this unfairness, and when their thoughts are directed to the proposition they will see that they have had a wrong viewpoint, though only through faulty precedents already established.

In this presentation a definite distinction is made between the so-called "x-ray expert," who in many instances is a non-medical man, the possessor of an x-ray machine who makes x-ray "pictures" without further intent, and the "roentgenologist," who, when properly qualified and experienced, is entitled to the same high standing in medical and surgical circles as is accorded the pathologist, the internist and others doing a special branch of medical work. In the strictest sense he is a consultant in diagnosis and his work should be so considered. It is unfair to regard the competent roentgenologist as one who makes x-ray "pictures or photographs." On one hand we have the x-ray man, whose job and sole aim in life is to make "x-ray pictures" for a fee (usually at cut prices), his effort reaching no farther than the mere mechanical process of exposing and developing "pictures" according to order, one view of this or two of that; on the other hand is the roentgenologist with whom the making of plates is not the primary object at all, but who views each case that has been sent to him in the same light that any reputable physician would a patient who seeks medical or surgical advice. He is not concerned in x-ray "picture-taking," excepting only as the roentgenograms

will reveal certain pathological lesions by more or less characteristic shadows. He considers these shadows in his study of the case along with the history, the symptomatology, the physical signs, the pathology and other aspects that may bear on the case. In this way only is it possible to obtain the full value of an x-ray examination. Anything short of such a study is incompetent and of little value and will often lead to faulty conclusions.

It does not follow, as is often supposed, that every one owning or manipulating an x-ray machine is a roentgenologist, even though he has learned to make beautiful pictures of this, that or the other part of the human anatomy. After purchasing an x-ray equipment many a physician feels that all he has to do is to turn out the pictures. The sales agent is often his only instructor. One should remember that x-ray diagnosis is not such a simple problem.

Nor does the term roentgenologist mean the man who has taken a so-called "course" in an x-ray clinic, even though under a competent roentgenologist. A roentgenologist is not made in two weeks or two months. Too often do physicians pass through this superficial preparation and then send out nicely printed circulars beseeching the medical profession to send them their patients requiring x-ray examination. Inducements are offered in some instances by a cut-price list of fees varying from 50 cents to \$3.75 per plate. (No rates are noted for dozen lots, but undoubtedly a reduction is made for such quantities). Such men are not roentgenologists in the true sense. Their incompetence makes it necessary to attract the regular physician or dentist by offering the inducement of a cheap price list. They seem to forget the dignity of their professional degree by lowering themselves to become mere picture takers. The doctor who sends his patients to the cheap x-ray laboratory is cheating both himself and his patient, because neither one is getting proper x-ray value. We hear much in condemnation of the physician who peddles his surgical patients to the operator where the operation is performed the cheapest, but there are few who realize that in x-ray work there is a parallel condition.

There are many physicians who send their patients to the "International X-Ray Laboratory," even though Dr. Blank, the director, can-

\*Read before West Side Branch, Chicago Medical Society, May, 1916.



not distinguish the shadows of normal structures and conditions, to say nothing of pathological changes; the question of skill in interpretation, of large experience, medical ability or pathological knowledge does not enter the doctor's mind when deciding to whom to send his patient for x-ray examination. These seem to be items of no importance with many and shows how little they regard the aid of the x-ray in diagnosis or else indicates their lack of knowledge of its real value.

As for the "x-ray picture takers," one can but say that it is a pity that they have not found their proper commercial sphere as "photo-gallery artists." The medical man who lowers himself to such actions does not deserve to be considered in good standing. It is sad but true that many of the so-called x-ray "directors" are unsuccessful physicians who have failed in regular legitimate practice. The quack x-ray physician is as much a reality as is the quack doctor and the quack dentist. Unfortunately there are no laws to protect unsuspecting patients from being sent to such as these. Even after many years of sad occurrences due to x-ray over-exposure in making plates, faulty manipulation of x-tubes, incorrect diagnosis, etc., there is nothing to prevent any Tom, Dick and Harry, with or without a medical degree and no special x-ray training, who may have the price of an x-ray machine, from applying this powerful physical force to any human being who comes to them in ignorance of the danger and risk involved. What the result will be from massive dosage with the new powerful Coolidge tube is hard to contemplate. Will the doctor refer his wife or his children to such a one? Then why send his patients there?

The term "roentgenologist" implies not only a special technical knowledge of x-ray in its various applications in diagnosis and treatment, but a thorough knowledge of the gross and the minute anatomy of the body. This does not mean a mere general knowledge of osteology nor the ability to name the several bones of the body, but myology, syndesmology, the arterial, venous and nervous systems as well as the anatomical relations of the individual organs. If one is not thoroughly grounded in these subjects he will not be able to distinguish the normal structures revealed on the roentgenograms, and if he cannot do this, how can he give information in

cases of abnormal conditions? It follows that he will not be able to connect the x-ray shadows with the probable pathological condition present. It follows that a thorough knowledge of pathology is a vital necessity to the competent roentgenologist, in the absence of which it would be useless to attempt to render an intelligent interpretation that would be worth anything to doctor and patient.

Of great importance also is a knowledge of the physiology of the various organs and tissues of the body. How can one detect a pathological stomach when he does not know the physiology as well as the x-ray appearance of the normal one? Would any thinking physician send one of his patients to the "Cosmopolitan X-Ray Laboratory" for an x-ray examination of the chest of a case in which he suspected an incipient pulmonary tuberculosis, if the director of the laboratory was not acquainted with the normal pulmonary shadows? Would a well informed otologist refer a mastoid case to the x-ray physician who calls the shadow of the temporo-maxillary articulation the semi-circular canals of the ear? Can any value be placed on the findings of the man who calls the shadow of the lower angle of the liver the gall bladder? How many of these x-ray photographers can be relied upon to give accurate information as to the lesion indicated by an abnormal heart shadow? What laryngologist would operate in a case of suspected chicken bone in the throat, in which the x-ray operator calls the hyoid bone the foreign body? And there are many x-ray picture-takers who cannot even distinguish between a fracture and an epiphyseal line. Yet these and many other blunders are committed daily by the incompetent x-ray man.

It is evident that the average medical man fails to distinguish between x-ray pictures and x-ray diagnoses. To him the one who takes the prettiest photograph is the best x-ray man, regardless of the medical skill, experience and ability back of the examination. How many of the so-called x-ray experts consider the history of a given case, or the symptomatology or the physical findings when reading or interpreting roentgenograms? To them it matters little what the stethoscope or the pleximeter reveals, nor does the gastric analysis, the blood findings or fecal examination bother them in the least in their

picture taking endeavors. And yet these are items of great importance in x-ray work and the man who does not include them in his interpretation will err in his findings. Each additional error through such incomplete work brings discredit to the x-ray and often is charged against the method instead of against the picture taker.

Thus we find that many physicians are judging photographic ability rather than medical skill when they send their patients to the man who makes the most beautiful x-plates. Yet we know that the finest plate may give no more information than one less brilliantly made. Often the x-ray "artist" does not know what is indicated by his fine plate, whereas, a competent roentgenologist will give infinitely more value to the doctor and patient by his ability to read even a poorly made plate. Doctors often say, "that is a poor plate, I can't see anything on it; you'll have to do it over again." What an absurdity! The doctor, with few exceptions, is not a proper judge of how good or how bad a plate is, from a diagnostic viewpoint. The question to be asked and answered is, "Does this plate give us all the information possible by the x-ray method?" The careful x-ray examiner will consider it his duty to re-examine cases in which the plates fail to be sufficient to give the information desired. Recently a few x-plates were brought to the writer for interpretation; these plates were made by a cut-price x-ray man who should be censured by the profession for delivering such outrageously poor work. The plates were so black with overexposure that it was almost impossible to determine even the region examined, although the esophagus was in question. Strictly speaking, the patient's money was taken under false pretenses, the doctor's time was wasted, and absolutely nothing was gained. A good roentgenologist would have known that these plates were failures and would have made good plates before he considered his work properly done. The patient later was sent to a competent roentgenologist who found the patient had a Zenker's diverticulum.

To the clear thinking physician it will be apparent that with few exceptions a non-medical man is not qualified to become a true roentgenologist; he is at best an x-ray technician or an x-ray operator.

The x-ray physician who has resorted to cut

prices as a means of getting business is manifestly a medical incompetent, else it would not be necessary for him to stoop so low as to grovel in such rank commercialism as to peddle x-ray pictures at \$1.50 per. Cheap prices are not consistent with high grade medical and surgical work, of which x-ray diagnosis is a part. And yet many hospitals are setting fees in accordance with the material used, not with the slightest consideration for the skill of the roentgenologist or the value of his interpretation as a diagnostic aid. The work done in some hospitals is not worth even the low fee charged, as can be seen by worthless gastro-intestinal examinations so frequent of late.

For reasons following, the term x-ray "picture" should be avoided by every physician and surgeon. To speak of x-ray "pictures" before a patient serves to make him think that he is going to get a picture made in the same manner as he gets a dozen photographs. This is an erroneous impression; he does not buy a picture, but pays for an x-ray examination, which is no more or less than a special medical consultation. The proper term for the plate is "roentgenogram," not "radiograph," "skiagraph," "roentgenograph" (all of which are verbs, not nouns), or any of the other incorrect terms in use today. If the scientific word "roentgenogram" be too difficult for the scientific physician and surgeon to pronounce, one could say "x-ray plate." This is a better word and one avoids the term "x-ray picture."

Another item of importance to the referring physician is the fact that the roentgenograms are the property of the x-ray physician who made them, and not, as is so often believed, the property of the patient. This question has been decided in many courts of law in which the question of ownership of the x-ray plates has come up. It also frequently happens that a patient refuses to pay for his examination until he gets his pictures; in this instance one finds it necessary to explain that it is special medical advice that they are paying for and getting, not pictures.

A full detailed report should be made to the doctor who referred the case, with diagrams or other explanations.

It is a mistake to give a patient his or her x-plates. It is wrong to give them any plates whatsoever, or even prints of them, for it can



result in no good either to the patient or the doctor who has sent the case. Let us see what happens when a patient takes his "x-ray picture" home; his neighbors drop in and are shown the x-ray plate; one of his visitors once had an x-ray examination made. His doctor did so and so and cured him, which happens to be different from the present treatment; other friends give him several different kinds of advice, with the result that he becomes dissatisfied with his doctor and the latter loses his patient; or, in another instance the x-plate is taken to some other doctor, who gives still another interpretation, even though he may know but little about x-ray shadows and their indications. What possible good can result from such events?

Another unfair attitude that is more or less frequent is the sending of a patient to a cheap x-ray laboratory, obtaining the plates, and then, because the interpretation may not be worth the paper that it is written on, the doctor seeks a competent roentgenologist to ask him to tell what the plates indicate. This constitutes a "thank you" case and, although it is no more or less than a medical consultation, of the same nature as is a bedside consultation, the doctor does not even offer to have the patient remit the usual consultation fee. When one stops to think, he will realize that the x-ray diagnosis is the thing that the patient needs, not "pictures," as such and he will see how unjust this proceeding is to the roentgenologist whose opinion is asked. If the physician will put himself in the roentgenologist's place he will see the injustice of this act.

It is also unfair to the roentgenologist for the physician to send in a patient after telling the man that the charge would only be a certain amount, usually naming a low figure. Because the charge in a wrist examination made in a previous case was a certain amount, it does not follow that an elbow, a hip, a head or a gastro-intestinal examination is also the same figure. Patients are too frequently thus instructed by their physician, and when the roentgenologist informs him that the charge is twice or even several times the amount as the case happens to be, there is difficulty in convincing the patient that his doctor was in error. The patient naturally feels that he is being held up and overcharged. It would be just as fair if the roentgenologist were to send the patient to that same surgeon for an appendec-

tomy, after telling him that the surgeon would only charge him twenty dollars for the operation. Then, when the patient gets the surgeon's bill for \$150 or \$200, he refuses to pay more than the \$20 that the roentgenologist told him the fee would be. Naturally the surgeon is indignant and asks by what right the roentgenologist placed a twenty dollar value on his—the surgeon's—services without even consulting him in the matter. This illustrates exactly what many physicians and surgeons are doing to the roentgenologist today. Is there any justice in such an attitude? Is it even fair to the patient?

Still another proceeding on the part of many physicians is the sending of a patient for "two views" of this or that part, or "one picture" of such a region. A competent roentgenologist needs no such instruction, and to do so is to infer that he does not know his work. It is an error to judge any case as needing only one, two or so many given plates in a given case. The roentgenologist is the best judge of how many plates he needs to get the full value of the examination. It may be necessary to make as many as twenty-four plates or more in one case and but one plate in another, but the referring physician should not put a limit on the number of plates to be used any more than he would dictate to the pathologist the number of slides he must make in examining a tissue or fluid, or to instruct the surgeon to make just two incisions in breast amputation.

In summing up the matter presented in this communication the following items are offered in conclusion:

1. An x-ray examination is special medical work; the object in view is the diagnosis, not x-ray pictures.
2. The roentgenologist is a medical consultant in each and every case referred to him, and his fee should be in accordance with the skill required in the case, not the number of views or plates.
3. An x-ray diagnosis is of value only when the shadows obtained are correlated with the history, symptoms, clinical findings, etc.
4. X-ray examinations and treatments should only be performed by regularly qualified medical men who have had special training and experience in the work.
5. The ability to make photographically

pretty roentgenograms should not be the principal point in judging the roentgenologist; the real factor is skill in interpretation and medical ability.

6. In addressing his patient the doctor should not speak of x-ray "pictures," but should use the term "x-ray examination," thus avoiding the idea that pictures are to be obtained by the patient.

7. X-ray laboratories with high-sounding names are often run by directors who are incompetent as roentgenologists, and many hospital x-ray departments are in charge of inexperienced internes, non-medical men with practically no training, sisters, et al. This should be considered in judging the value of the work done.

8. Opinions asked of the roentgenologist on roentgenograms made by someone else are medical consultations, and he should receive proper compensation for the service rendered.

9. Patients should not be given any plates or prints, but should be advised that they are paying for an x-ray diagnosis, not pictures.

10. Finally, every physician and surgeon should give that consideration for the work and opinions of the roentgenologist that he expects for his own.

The hope is expressed that the exposition of these conditions will result in a better understanding of the relation of the roentgenologist to the physician and surgeon, and that a closer coöperation will bring about a higher percentage of correct diagnoses through the better team work that will follow.

### CHRONIC ETHMOIDITIS AND ITS TREATMENT.\*

OTIS H. MACLAY, M. D.,  
CHICAGO.

The aim of this paper is to give a general review of chronic ethmoid trouble rather than an extended description of some one type, so that we can be on our guard against a focal infection located in this region, and look for it as earnestly as we do those of the tonsil or teeth, but, owing to the hidden situation of these cells, we must investigate even more carefully, since many of the cases are very obscure, not only in their history, but also in the local findings.

There are various classifications of ethmoid in-

volvement, but the simple division of these cases without pus present and those with pus gives the two distinct types. The first or the chronic catarrhal inflammatory form is also termed the hyperplastic type of ethmoiditis, and here we have certain symptoms and signs which at least warrant a careful nasal examination. Prominent among these symptoms are the following:

In the earlier stages a chronic coryza, nose running, sneezing, patients often state that they are continually catching cold upon slight exposure. Later, the headache appears, and in most of the cases is described as a distress rather than a severe pain. It is located at the base of the nose, between the eyes, extending backward and radiating to the temporal region, and over the top of the head. The sensation experienced is one of stuffiness or fullness, with a feeling of pressure, generally deeply seated between the eyes, but may be felt as though behind them. Occasionally, it is stated that the pain becomes extremely intense. The ethmoid headache is not influenced by stooping or jarring, as in the frontal, which is well to remember when differentiating from frontal trouble, but the fullness and pressure sensation experienced is intensified in the suppurative type when the head is held downward, if only for a few moments. It is not influenced by fatigue, or only slightly, and as far as I can determine there is no marked periodicity as is shown by the frontal. The secretion blown out is often clear and watery. This becomes purulent when an acute attack occurs, and upon inspection a thick, sticky, muco-pus is seen on and between the polypi. Here we are dealing with a hyperplastic type plus an infection, but differing from the true suppurative ethmoiditis. Owing to the occlusion of the olfactory space due to the presence of polypi, various conditions arise. Generally the sense of smell is wanting, and in this type is due to a mechanical blockage. They also complain of a subjective unpleasant odor due to stagnation of the secretions held back by the large polypoid masses. With this is associated a very unpleasant taste, most noticeable in the morning. Granular pharyngitis is generally present, and as a bronchial complication the well-known asthma, which in a number of the cases is absolutely relieved following the ethmoid exenteration.

The histories of these cases are extremely in-

\*Read before the Jackson Park Branch of the Chicago Medical Society, May, 1916.



teresting, with their almost instant cure after years of suffering.

In my own experience, the severest asthma cases and those giving the most surprising results have been in the suppurative class, and the universal history in these cases has been that medication and change of climate have had no effect, with the exception that a vaccine from bronchial secretion has for a time given an improvement.

These cases also give another point in common, which is termed by them "catching cold." Every little while they have a marked increase in all symptoms, which is probably not a cold, although resembling one, but a more active process in the area already involved, due to some external stimulation or perhaps to a lowered resistance. Asthmas with ethmoid infections present, I believe, are often due to a toxemia, with the ethmoid cells as the focus, and should be treated accordingly.

Having mentioned some of the diagnostic points of hyperplastic ethmoiditis, it might be well to consider the suppurative type by comparison. It is often stated that an ethmoid infection is associated with, and often caused by, some other sinus involvement, especially the frontal, and although that is doubtless true, nevertheless we have ethmoid disease without the involvement of other sinuses, and one of the interesting pictures that I have seen in my work in this region is the clean sphenoid with suppuration in the posterior ethmoidal cells, and the associated occipital headache which we have always considered an evidence of sphenoidal disease. It may be that an associated congestion of the sphenoid is present, due to pus in the immediate neighborhood, and that that is a causative factor, but the fact remains that inability to concentrate and occipital headaches are present in a considerable number of cases with clean sphenoids, but with pus in the posterior ethmoids.

The headache is a variable factor, since with drainage present it may be an almost negative condition, but when the pus is closed in, it may become intensely diffuse. Commonly, it is located, as in the catarrhal type, but, as stated, often extending to the neck and occiput. Here we have crusting and increased secretion, both in nose and naso-pharynx, with much secretion in a hypersensitive pharynx, a granular phar-

yngitis, and a hacking cough, which is very commonly rendered more acute by changing weather. In fact, patients claim to be weather prophets, since with a change to cool, damp days the scrappy, raw throat, with increased secretion, immediately appears. At these times the throats are markedly increased in their red granular appearance, with much muco-purulent secretion on the posterior pharyngeal wall. The throat symptoms are important, since for them the patient seeks relief, and by judicious treating relief is obtained, but the nearest approach to a cure lies in operative procedures.

Associated conditions that could result from absorption may be present, depending upon the virulence of the organism, the character of the drainage, whether free or otherwise, the resistance of the patient, and so forth. In rheumatism, in various ocular manifestations, as iritis, in vague neuroses with any nasal history, an ethmoid examination is indicated.

The x-ray plates as an aid have not been of definite value in the cases that I have had, and I believe that to be the consensus of opinion among other men. Recently the position of the head has been changed and this may be of some benefit. Formerly the forehead and nose touched the plate (Caldwell's position), but by placing the chin and nose in that relation (Water's position), the posterior ethmoids are shown in the maxillary sinus and the alignment of cells anteriorly is much clearer. In one plate shown tonight the cells appear normal, but upon operation pure macroscopic pus was found in cells markedly necrotic.

In obscure cases the previous history may be of value. Not uncommonly the patients state, but only when questioned, that years ago, perhaps in childhood, they had a bad nasal catarrh which bothered them for years, even stating that odor was present, with a heavy, nasty secretion, hard to blow out of the nose. Here, doubtless, was some form of sinus disease which, in the course of time, became less annoying, but probably was the starting-point of some chronic trouble. Polypi may be present, large or small, but may be so hidden that upon examination they are not seen. In the true hyperplastic type we do not feel that they must be present in order to make a diagnosis, but I believe the diagnosis is surer if they are found, even though very

small, but in the same form, with suppuration, polypi are generally present and easily seen, although not always so. This brings us to the cause and effect of nasal polypi, a much debated question, and which is best settled by allowing both sides to win, since it is true that suppuration of the ethmoids does cause polypi, and also is it equally true that blockage from polypi by damming back secretion allows it to become infected and hence a suppurative ethmoiditis results from polypi being present, and not from the suppuration *per se*.

Having obtained a history of our case, the next and most important procedure is a nasal and sinus examination. This must be done carefully and exhaustively, for it is only by careful scrutiny in those cases designated as the small polypi cases, or those where true polypi are not present, that a correct diagnosis is possible. In these cases I prefer to make the examination in the hospital. Should we find at this time that our suspicions are confirmed, we are in a position to clean out the ethmoids without further delay. The main points to be observed in this diagnostic work are as follows:

1. Complete local anesthesia, best obtained by rubbing the areas with adrenalin-wet cotton, after being held in cocaine powder, so that almost the pure powder is rubbed on the surface.

2. Careful inspection following this very decided contraction.

3. Irrigate maxillary sinuses in order to eliminate them as a possible source of infection.

4. Thoroughly clean and dry entire nasal cavity, in order to determine where the pus comes from, should it appear following the next step.

5. Fracture middle turbinate, so as to give view along and underneath its outer side, and after bending it away from septum, a view between it and the septum, to or into the sphenoidal sinus. I often use a long Killian speculum for this procedure, or a flat dissector may give sufficient leverage to force the middle turbinate aside. Resultant upon this, we are able to determine if pus appears, if polypi are present in some of the hidden recesses of the nose, even though they may be only bead-like in size, if by probing we have denuded bone, or a polypoid degeneration of the tissue now under inspection. By this means we determine whether

the anterior or posterior group of cells, or both, are involved, and plan the operation accordingly. A complete or a posterior ethmoid exenteration is best done by a preliminary removal of the middle turbinate; however, the anterior cells can be cleaned out without more than fracturing the middle. This, I believe, can be most advantageously done by means of the curet, cleaning cell by cell until all granulations and necrotic bone are removed, being guided by careful inspection given by frequent drying and also by the feel of the curet against the firm outer wall of bone. I cannot emphasize too emphatically that the greatest care should be used that the curet work away from the cribriform plate, that we should never forget that what feels like granulation tissue may be a soft necrotic outer wall, and that when in doubt it is far better to leave in diseased tissue than to be too thorough. When we remember that the lymphatics of the upper nose can be injected from the subdural space, and that we are working in a region of longstanding suppuration, where, owing to the extensive necrosis, it is impossible to state how complete is the bony wall separating the operative field from the meninges, it becomes evident that more than mere cleaning out is necessary. The diseased condition must be relieved, but the "Safety First" motto must be ever present.

6. The sixth and last point in the treatment is that concerning the after-care, which is a subject in itself, and can only be mentioned here. In the suppurative cases the best results are obtained by an occasional inspection extending over several months, using various means in our endeavor to give a healthy field.

25 E. Washington Street.

---

CO-OPERATION BETWEEN THE COUNTY  
MEDICAL SOCIETIES AND THE  
STATE BOARD OF HEALTH  
FOR THE GOOD OF THE  
COMMONWEALTH.\*

C. ST. CLAIR DRAKE, M. D.,

Secretary of the Illinois State Board of Health.  
SPRINGFIELD, ILL.

It is not necessary for me to remind you of the necessity of cordial co-operation between the

---

\*Presented before the County Secretaries' Conference of the Illinois State Medical Society, Champaign, May 15, 16 and 17, 1916.



members of the medical profession and the public health official for the purpose of obtaining the highest degree of efficiency in the protection of the lives and health of the people. It is true that the health officer has behind him the public health statutes enacted by the legislature, the observance of which is mandatory upon physicians and laymen alike. It is true that the health officer may, if he chooses, secure the observance of health regulations by prosecution or by force. It is likewise true that no laws are productive of salutary results if such laws be in advance of or opposed to general public sentiment. The maximum of official efficiency is only reached through the enforcement of reasonable and fairly popular laws which are made acceptable to the people by education and a strong appeal to public spiritedness.

The family physician has been the guide and mentor of his people in matters of health for generations. The example of the family physician cheerfully observing health laws and co-operating with the officer whose duty it is to enforce such laws, is a powerful force in producing a law-abiding general public.

Without such co-operation, the effectiveness of health legislation is reduced to the minimum and the work of the State Board of Health and of the local health authorities is made difficult and unpleasant;—unpleasant not only to the responsible administering officers, but also to the medical profession and to the public. As an illustration of this, you may recall the quarantines of communicable disease in which, on the one hand, there has been a spirit of friendly co-operation and in which friction has been almost, if not entirely, absent. On the other hand, you will recall the quarantine in which the relationship of health officer and physician has been marked by bitter antagonism. And you will recall that in the former quarantine there was a much higher degree of efficiency and a much more complete conservation of the safety of the public.

I think that we overlook the fact at times that physician and health officer are working to one and the same end;—the suppression and prevention of diseases. Forgetting this, the physician, jealous of his own liberty and rights, may suspect that the health officer is too ready to employ the authority which the law has unquestionably given him. On the other hand, the health officer may

at times suspect that the physician is disposed to assume rights which are not his and to ignore the legal authority. If we can forego these petty differences;—if we can center our attention on the real and important thing to be attained;—if physician and health officer will only strive to know one another better, a spirit of co-operation can be created which will bring enormous benefits to the people as a whole.

In bringing about this mutual understanding and co-operation between the State Board of Health and the thousands of physicians of Illinois, it seems wise to utilize the excellent machinery which has already been created and the secretaries of the various county medical societies appear to be the proper and logical means of reaching the physicians of their several communities. Likewise, it seems to me that the secretaries of the county societies should be the ones to reach the State Board of Health in expressing the views, the opinions and the wishes of the men who make up their societies.

Within the past two years the State Board of Health has had occasion to appeal to the county medical societies on several matters of importance and always with good results and that experience has impressed the Board with the possibilities of co-operation for the future. And this co-operation, it is anticipated, will go much further than the field of the physician engaged in following his calling;—it will extend to the physician engaged in all branches of the great field embraced in social and civic betterment.

Within recent years there has been awakened what one may term a broad civic conscience. Men and women of prominence are engaging more and more in the improvement of living conditions of their communities and most important among these living conditions are those things which have to do with the health of the people. This social and civic movement is making a strong call for the services of public-spirited physicians and the medical profession cannot do better than to take an active and conspicuous part in such a movement. To do so will bring benefit to the public; will reflect credit upon the profession and will bring definite and legitimate benefits to the individual himself.

It is perfectly natural that the public should hold in higher esteem the physician who lends his efforts to the prevention of disease, who is a leader

in movements to safeguard the public health and thus assure a greater degree of happiness and prosperity to the community, than it holds the physician who is indifferent to such endeavor.

In this day and age, when the public press is devoting much space in its news and editorial columns to the discussion of public health protection and the means of its accomplishment; when our newspapers are teeming with advice and information on how to avoid preventable disease and unnecessary sickness, and the people everywhere are thus brought to realize the great possibilities and responsibilities of the medical men, it must be evident to all of you that the doctor of today must be more than a practitioner of curative medicine;—that he must be a practitioner of preventive medicine and a promoter of protective sanitary projects.

The public is rapidly being educated to the newer order of things and the time is now at hand for the members of the medical profession to adjust themselves accordingly. Those who do so early will, undoubtedly, experience material personal benefits such as come with a wider public knowledge of a man's real worth to the community which he seeks to serve.

The Illinois State Board of Health is in a position to assist the medical profession in its entry into this wider field of community or public welfare endeavor and it is our aim to encourage the profession to take the initiative in such movements rather than to leave it to citizen or lay organizations;—organizations which spring into existence by reason of a lack of action on the part of those who naturally should take the lead in such movements.

Mind you, I am not saying that lay organizations should not be taken into consideration in community welfare movements. They are a very necessary part and a quite indispensable factor in the success of undertakings of this character. I do wish to emphasize, however, that the organized medical profession of every community should originate and set in action all movements in which community health is a major consideration.

The local medical profession should give public evidence of deep interest and should be prepared to offer counsel and advice to the constituted authorities and to the people on such community problems as water supplies, sewage disposal, gar-

bage disposal, ventilation and sanitation of school houses and other buildings, drainage and street cleaning. In all such problems the State Board of Health can be of assistance to you and upon request, we shall be pleased to send our expert sanitary engineers to study the local situation and to counsel and direct you in their proper solution without cost to your community.

The medical profession is also looked to for advice and guidance in the solution of the greatest of all community problems—the control and elimination of communicable diseases.

In lending yourselves to the solving of this problem, you must deal more with the people than with the community authorities. You must resort to popular education for, in the final analysis, education is the 85 per cent. effective weapon in the prevention of preventable disease.

Impress upon the people the facts that more than half the sickness of their community is unnecessary and that fifty out of every hundred deaths are untimely and avoidable and you will develop a desire for information and a disposition to put this information to practical use.

The medical profession should take the leading part in the health education propaganda. At the present time, they are doing relatively little, leaving it to the public health bodies and lay organizations. It has been stated that, in the great nation-wide movement now being waged against tuberculosis, that perhaps ninety per cent. of the effective work is being done by laymen.

The Illinois State Board of Health would like to interest the medical profession in this great work and the Board feels that the best way to accomplish this is through the agency of the various county medical societies.

Through the secretaries of the county societies, the Board offers to place its educational material at the disposal of the profession. Our exhibits, literature, lecture outfits, motion pictures, stereopticon slides, etc., are at your service and we earnestly invite you to make use of any part or all of this material.

We especially desire to develop a large corps of public health speakers, at least three or four in every county in the state, and, in order to encourage physicians to undertake this work, we are now creating a lecture library service, em-



bracing prepared talks on all health topics and a lantern slide and motion picture loan service. Entertaining and instructive talks in typed form, many illustrated with a selected series of lantern slides and a few with motion pictures, will be supplied on request and without cost. This service will permit the busy practitioner to engage in this important and attractive work with the least possible trouble and with little or no expense to himself.

Our publications are always at the disposal of the physicians of the state for distribution among their patients and it has occurred to us that, as a means of encouraging in this way, it would be wise to issue supplies of these publications to the various county secretaries, thus making them readily obtainable by the local profession. Our booklets on the care of the baby, tuberculosis, the handling of contagious diseases, the fly menace and the mosquito nuisance will be found acceptable by physicians and laymen alike.

At the present time, many physicians over the state carry supplies of this literature for distribution and we are impressed with the great advantage of having our literature passed to the public in this way. Incidentally, it occurs to us that there must be some advantage to the local society in having the physicians come to them for supplies.

As many of you know, we also publish a monthly publication under the title of the "Illinois Health News," written in popular style, devoid of technicality, the chief purpose of which is the education of the laity in health matters. We shall be pleased to send the "Health News" to such of your fellow townsmen as you may desire to have included in our mailing lists.

In each number of the "Health News" we have run two cartoons setting forth public health truths in an impressive and forceful way. Pictures often deliver their lesson where type fails to be effective. To give these cartoons a wider value, we shall be very glad to loan the plates to the secretaries of county medical societies for use in the bulletins of the local societies or for publication in the local newspapers.

Incidentally, in preparing material for the local newspapers in the campaigns of education which medical societies are now engaged in or may be engaged in in the future, we want

you to feel free to draw upon any of the material contained in any of our publications and to use it as freely as though it were your own.

Our public health exhibit,—consisting of numerous mechanical devices, still models, posters and practical demonstrations,—is in great demand by county fairs and chautauquas and for such events as "Health Weeks", "Baby Weeks" and "Community Betterment Exhibits". We loan this exhibit to those who agree to defray the cost of transportation and operation, the Board having no funds to meet such expenses. We prefer to book the engagements for this exhibit through the agency of the county societies and to have it generally understood that it is being shown under the auspices of the society. Experience establishes the fact that wherever this arrangement is made, the society gets favorable notice in the local newspapers and in this way there accrues to the society that profit which comes with public knowledge of its enterprise and public spiritedness.

In addition to this elaborate exhibit, we have a parcel post health exhibit, consisting of a series of colored posters, which we shall be glad to loan you at any time and without expense to you.

As these exhibits are much in demand and the supply limited, it is necessary, in order to avoid disappointment, to make your engagements well in advance of the date desired.

Doubtless some of you, within my hearing, have actual knowledge of the intense interest which a baby health conference or a better babies contest arouses in a community. Those of you who have had actual experience with these contests also know that, when properly conducted along scientific lines, they are events productive of great benefits not only to mothers and the children participating in them, but also to the medical profession of the community in which they are held.

Give a mother a score card showing the defects found in her child after careful and exhaustive examination and you may be sure that she is going to consult the family physician with a view to the correction of those defects. Thus the child is benefited, the mother becomes more intelligently interested and, incidentally, the family physician is not the loser.

Quite recently I have had the opportunity to personally observe the conduct and outcome of a

number of these contests and in all instances, where they were properly conducted, I can truthfully say that they have been productive of a larger measure of benefit than any of the many kinds of infant welfare movements with which I have had experience.

Perhaps the best testimony to the success of these events is the fact that wherever one is held there is a unanimity of opinion that they should become annual events, and the physicians themselves are the most enthusiastic supporters of this idea. Therefore, I say that the county medical societies may well consider the adoption of contests or conferences of this character as a feature of their year's program and as a contribution to the welfare of the baby citizens of their respective counties.

For the purpose of furthering work of this character, the State Board of Health is prepared to furnish detailed instructions on how to organize and conduct a baby health conference and it will supply, without cost, such necessary supplies as score cards, anthropometric tables, certificates of examination and so on.

Incidentally, those who are most active in the antituberculosis crusade throughout the nation, complain of the tardiness in the diagnosis of tuberculosis on the part of the rank and file of the medical profession. The early diagnosis of this disease is one of the most difficult things in medicine and the technique of examination and diagnosis has radically changed within the past few years. In several states, and on an especially broad scale in the State of Michigan, a movement has been put on foot to bring experts in the diagnosis of tuberculosis into every county to hold clinics before the county societies. These clinics extend over at least two days, so as to permit the working out of the various tuberculin tests and other technical details of diagnosis. It is expected that, in this way, and through the instrumentality of the county medical societies, a most valuable piece of work is to be carried out in the warfare against this most widespread of diseases and at the same time there will be brought into each group of medical men a means of post-graduate instruction in a most neglected field of diagnosis.

In matters of legislation and in attempts to improve local situations through the enactment of ordinances there should be the closest co-

operation between the State Board of Health, the local health authorities and the organized medical profession as represented by the county societies.

The program of the State Board of Health for constructive legislation includes the creation of a county health officer service for every county in the State and the Board is convinced that the citizens of the 102 counties, and more especially the residents of the smaller communities and of the rural districts, never will be afforded the health protection to which they are entitled until such a service is developed.

Recently we have divided the State into five districts and have placed a fulltime district health officer in charge of each district. It must be obvious to all of you that one man in charge of the health supervision of more than a million people scattered over an area of approximately 11,300 square miles is not in position to give such attention to the health needs of the people of his district as they should have. The fact is that he can cover only about one-twentieth of this area and do the work efficiently. The need is a full-time medical health officer in every county; a trained medical man selected because of his fitness for the position and devoting his whole time to the work.

Illinois, to keep abreast of other states awake to the best interests of their people, must create a service of this kind. It will prove a matter of great economy to every county and will be the means of saving hundreds of human lives annually. The State Board of Health asks you to assist in securing the legislation which will make this much-needed service possible.

At this time, I also take occasion to draw your attention to the deplorable inefficiency of the health organization of the average small town and many of the larger towns of the state. The niggardly appropriations for the purpose of health protection in many of these communities brands them as mighty unsafe places in which to live and the statistics of preventable sickness and avoidable deaths of these places bear testimony to the truth of the statement.

In scores of towns in this great, rich state, the officer charged with the responsibility of safeguarding the health of his fellow citizens is paid the princely sum of from \$5.00 to \$25.00 per annum. Think of it!



To you men who are officers of the county medical societies I say that it is your duty to see that this disgraceful state of affairs is corrected. Teach your people the need of buying health protection and prove to them that they get no more protection than they pay for. See to it that a fair compensation is provided for health protection and see to it that men competent to render the needed service are selected for the purpose.

The State Board of Health also earnestly solicits your co-operation in the enforcement of such important laws as the act relative to the registration of births and deaths, the medical practice act wherein it relates to the practice of unlicensed persons and in the enforcement of the rules and regulations governing communicable diseases.

The time at my disposal will prevent me from referring to more than one of these three laws; but I cannot close without advising you of the conditions now confronting us in our attempt to enforce the provisions of the medical practice act and telling you to what extent we must depend upon you and the members of your societies for assistance.

Doubtless all of you are aware that the Supreme Court, in its decision in the Fergus injunction suit, deprived the State Board of Health of its legal department and its legal funds and by this act, compelled us to depend upon the states attorneys of the various counties for such legal aid as we may require.

This places upon the Board a very serious handicap and has already resulted in a sharp falling off in the number of prosecutions of illegal practitioners. Moreover, as the fact of our predicament has become known to old offenders, they now feel that they may resume their illegal practices without fear of prosecution and the number of complaints of such violations has very materially increased.

The only way that we can cope with this situation is to ask the officers and members of the local medical societies to gather evidence against such violators, to advise the Board in detail of the facts in the case and also lay the facts before the local states attorney.

The Board will present such facts as it may receive in this way to the Attorney-General and we shall also advise and authorize the states attorney to begin prosecution. Before action can be had you may find it necessary to visit the

states attorney several times, but if this necessity exists, do not fail to meet it.

The Board deeply deprecates the situation. It is not one of our making; but it will do the best it can under the circumstances. With your assistance, and the assistance of the societies which you represent, we may be able to do more than we now anticipate.

#### DISCUSSION.

Dr. O. B. Wills, of Peoria, felt that the public, generally speaking, is very suspicious of the medical men as an organized body. Just as soon as a local society begins to participate very actively in that direction, the public get the impression that, as they say, "there is something in the wind." They cannot by any possibility understand that men would be so self-sacrificing as to sort of impoverish themselves, in a sense, by taking a very active interest in the promotion of public health, and whenever that effort is made we accept, in a sense and in a measure, the animosity of the public, and they are very unlikely to accept the overtures that come from the local health or from the state health body.

#### PRINTERS' INK IN ORGANIZATION.

THOMAS P. FOLEY, M. D.,

CHICAGO.

Secretary Douglas Park Branch Chicago Medical Society.

Without organization no medical society can be a success. The successful organization of a county medical or a state medical society depends on the activity of the society's secretary. Secretaries are born; rarely made. The subject of organization is such a large and complex one, presenting so many phases for consideration and discussion, that, in justice to those who are here to address you upon other topics, my paper must be devoted to one topic and phase: "Printer's Ink in Organization."

The question may be raised: why attempt to secure as a member of your society every eligible physician in your district? Will the thorough organization be an advantage to those already members? The answer is unhesitatingly yes, and yes with emphasis. The spirit of friendship engendered and the healthy rivalry in study instituted, which is necessary to attendance at the regular meetings, abundantly repays the secretary for every effort he may have made. The added satisfaction of having completed his term of office with the society in better shape, the meetings better attended, and the physicians of the district better physicians and better men because of a

closer study of medical subjects and increased friendship for each other is the eternal feeling of satisfaction which comes with work well done.

In the work of organizing a given district the secretary is dependent upon two factors or methods, (1) personal solicitation and (2) printer's ink.

Personal solicitation is the better method and the one productive of ideal results, but because of the time necessary for its proper accomplishment, the territory to be covered usually being quite scattered, it gives way to the use of printer's ink.

The objection may be raised that personal solicitation to join a medical society should be unnecessary with eligible physicians; that eligibles will join without being solicited. That solicitation should be unnecessary is granted and granted readily. Eligible physicians should recognize the necessity for medical societies and the advantages of such organizations to themselves. That they do not will be admitted by every secretary present.

Therefore, is it worth the time and expense to those in the fold to attempt to bring the light to the ones in darkness? Without doubt it is. For, sweeping aside for a time the consideration of altruistic motives, a medical society composed of ninety per cent. of the eligible physicians in a certain district has more dynamic force for good to themselves and their community than has a select organization of from twenty to thirty per cent.

If the secretary has the time and the inclination to work along lines of personal solicitation in spite of the objections thereto, the paramount factor for him to keep in mind is that he has a product for sale—membership in the county medical society. Having a product for sale it will be necessary for him to know all about that product. He must have his selling points arranged in logical sequence, usually holding the big selling point as a climax to his interview. Why? Because some solicited join readily as soon as the subject is broached. This percentage is large and consists of the bashful type, who are waiting for an invitation to come in. Some will require further talk and withhold the application until the direct benefit to themselves is appreciated. Some will require every reinforcement that the secretary has at hand before the application is signed. In this state probably the best selling

point is the fact that the state society defends its members in malpractice suits. Showing a physician that he is paying three times more for his protection than is necessary and that with thirty-three per cent of the cost he will get so much more than the protection alone is a fitting climax in securing his application.

Turning aside from the question of personal solicitation, admitted to be the better method, we consider the subject of the paper "Printer's Ink in Organization."

How may this be used to organize your county medical society? Will the results obtained justify the means, the effort and the expense? The present is the golden era of advertising. Millions of dollars are spent each year in presenting to the public various products—mainly commodities, but some of them luxuries. This money is spent to induce people to buy. It is worth spending money to induce a man to buy an umbrella before the rainstorm, because when in the rain with your umbrella he appreciates your thoughtfulness. It is worth inducing a physician to join your society, so when he needs the society or the society needs him he or the society is an active force.

But in the use of printer's ink we must use extreme care and utmost caution. Properly used it is a supreme aid. Improperly used it is a great detriment. The greatest danger is the stock letter; the dead black and white; the lifeless jumble of words; the embalmed argument. How shall we go about it so what we write and send will be acted upon? So that what we send shall be read and not consigned unread to the waste paper basket? What we are after is action. Therefore, we must present to our prospects some of the means for bringing about action.

We all realize the danger of permitting things to be placed aside for consideration and usually forgotten. Therefore, what we use must be virile, personal, pulsating and actually living.

The ideal method of reaching prospects and also keeping your present members interested and active is through the publication of a bulletin or newspaper limited to your immediate district, issued either monthly or bi-monthly. The expense is not great and may usually be covered by advertisers in your territory who appreciate the opportunity of reaching medical men in a way that their advertisements will be read. We know that most mail advertisements to medical men are



promptly thrown into the waste paper basket usually without even a glance.

By the use of such a newspaper covering your territory, inserting therein the notice of your coming meeting and the report of your past meeting, the personal items of good fortune and sometimes the unfortunate record of misfortunes, you present a sheet of which your members are part and parcel. You present the personal living interest necessary to your society's success. We all enjoy reading our names in print and we enjoy news in relation to our neighbors. Curiosity is not confined to just Eve's daughters!

In aiding your organization the advantage of such a publication is in the fact that your own members are inspired to read papers, meaning better study on their part and better study on the part of those entering in the discussions. This idea of inspiration to study is one of the primary objects of medical societies.

Your members get extremely tired of attending meetings where they are mere onlookers; where the papers are confined to a few; where the papers are not of practical interest and to follow the lines established in these papers requires expensive apparatus. At such meetings members hesitate to discuss the papers read because they may be unfamiliar with the subject presented and because they feel hushed and silent in the presence of the high and mighty from the distant city.

Your members are just as apt at compiling statistics and quoting from the text-books and the current literature. Why not give them a chance? Get papers of practical importance from your members. This aids in your organization work because non-members reading of the work done by those already in the society are inspired to join. If you feel that visitors are necessary have them at the meeting to begin the discussion. In plain, unvarnished English: "Wake up your society and boost your own members." Let them see their names in print and let them know they are good students, but the fact has been latent.

A publication of this kind is sent not only to your members but to every prospective member in your territory. Reaching them in this way month after month you finally impress upon them the importance of becoming members; that is worth the time of every physician to be a member of your organization; that by attending meetings they will not only meet the physicians of the

district, but that they will be partaking of the many scientific advantages presented. Their respect for the members of the society increases.

By everlastingly pounding away at the organization of your district here are a few of the big things you accomplish:

1. Good fellowship: When you get to really know the other fellow you find he has many virtues and few faults.

2. Better meetings because the papers are read by your own members and the discussions are freely entered into because the members feel it is their society.

3. The competition in your district is cleaner; prices are maintained because the medical men are on a friendly basis and working for their good and the good of the community.

4. The good to the community is manifested in the fact that at public functions and where questions of sanitation and public health are concerned, the community recognizes the society in the requests for speakers and for advice.

5. Social meetings come into existence and these meetings are a boom for the society. Friend wife is entitled to an outing at the expense of the society. The auto drive with the dinner and dance; the annual banquet in the fall or spring and the reception in the winter place a new aspect on your organization and make it easy for the physicians to attend.

6. Legislation: If your district was properly organized you would not see the futile efforts the medical fraternity make in legislative halls when some bill is pending detrimental to their interests. If physicians only recognized their proper political strength in a legitimate way they would have a large share in the selection of the representatives and senators from the various districts. When they do this through their proper organization they will not be depending upon the word of politicians who in the past have been found wanting. In this famous speech Patrick Henry said: "I have but one lamp by which my feet are guided and that is the lamp of experience. I have no means of judging the future except by a consideration of the past." Judging our future by a consideration of the past laws it is a proper and appropriate time the physicians woke up and asserted themselves for their own protection.

## A VALUABLE AID IN OUR WORK.

E. W. FIEGENBAUM, M. D.,

EDWARDSVILLE, ILL.

Secretary Madison County Medical Society.

Organization is the life of the profession. Without it we would each be sailing our own little boat without any reference to the other fellow; we would keep on in our own little narrow rut, repeating our mistakes year after year, having no opportunity to compare our work with the work of others round about us. Organization is what makes meetings like this possible, where we come in contact with our fellow practitioners, who are up against the same problems that we are trying to solve. Here we give and take; here we meet each other, forming very pleasant and lasting friendships. Organization promotes harmony and gives the death blow to the rancor and animosities that were at one time so prevalent in the profession. You show me a man who is everlastingly at war with his fellow practitioners, who has no word of commendation for any one in the profession, except himself, and I will show you a man who is not a member of the organization, a man who is narrow between the eyes, a man who has a lot of sawdust mixed with the gray matter his cranium is supposed to contain and a man whose soul shaken in a peanut shell would make an audible noise. Such a man has missed the true meaning of the title "doctor" and is a mere pill peddler.

Organization stimulates us to greater endeavor, increases our interest, promotes the spirit of emulation. We can not be true members of our societies without becoming better men, better doctors, with our whole beings filled with zeal and enthusiasm. In short, organization is what has put the "fizz" in "physician."

The basic unit of medical organization is the county society and the main-spring of the society is the secretary. No secretary can make a success, unless he has behind him a united working society; but even so, no society is a success unless it has an active working secretary, and such a man is hard to find. He must be a man of high ideals, thoroughly devoted to his profession, broad enough to overlook the frailties of mankind and ready at all times to subscribe to the doctrine of the great brotherhood of man. He must work in season and out of season with all kinds of people. He must listen with patience to

the complaints of some members and be ready to rejoice in the success of others. In fact, to do the work right is some job and he needs all the help he can get to hold it down.

Nothing is so helpful to the secretary in his work as to have the hearty co-operation and interest of all the members of the society. When we all pull together for the advancement of the organization we are bound to have a real live society, which in turn makes for more interest and enthusiasm. In our experience the most valuable factor in securing this interest and co-operation has been the publication of our monthly bulletin, "*The Madison County Doctor*".

Six years ago we began this publication by issuing a very modest little sheet of four pages, but it met with the hearty approval of our members instantly and it was enlarged to eight pages. A demand for more was forthcoming and for the last two years we have been carrying twelve pages. To have a little newspaper all our very own to chronicle the events in the lives of our members and to give them month by month little articles on medical matters, both in state and nation, pleased our readers very much and the society voted all the money, which in the judgment of the secretary, was necessary for the betterment of the little Journal.

Now as to the policy of the publication. We conscientiously keep out of our columns anything of a scientific or pedantic nature; no paper on any subject, whether read before our society or elsewhere, is ever published, however worthy it may be; no voluminous dissertation on laboratory research or results ever appears. We leave that for the many efficient state journals and the *Journal A. M. A.*, that cover this special field. We try to put into our columns short, snappy articles which indicate the trend of improvements in methods and practice. If we find anything worth writing about or if we find anything in medical or lay publications that will be of interest to our members, that will make them better men and better doctors, that will help them to keep in touch with the general advance in our profession, that goes in, but it must be short and right to the point.

In our news items we exercise great care not to mention the professional work of any member, thereby escaping the criticism that we are boosting the interest of any man or set of men. However,



anything that appertains to the doings of our members in a personal way or their activities as citizens is eagerly sought for and chronicled in our news columns. If a new doctor comes into our county his name and location are given immediate publicity. If one of our members moves to another location his new field of labor is made known to our readers. If he builds or buys a house, gets a new machine, takes unto himself a life-partner or has an addition to his family, he, of course, would like to have this fact known to the rest of the fellows and his wishes are gratified every time. We mention the names of as many doctors in our news columns as we possibly can, but never in connection with a patient or in any professional capacity.

But the chief value of the publication lies in the fact that it gives the secretary an opportunity to talk to all the members of the society once a month. He can tell them of the wonderful meeting we had last month and of the still more interesting meeting we are going to have next month. He can announce the speaker for the next occasion and by a few words of special introduction stimulate curiosity and interest which will insure a larger attendance. He can write an article on delinquent dues, which sometimes brings an avalanche of checks, much to his surprise; in fact, if the secretary has anything in his system that he wants to get rid of, it gives him a chance to do so before he explodes.

We send a copy to every doctor in the county, whether he is a member or not, and by this means we bring all of the medical men in contact with each other. The new man coming into our county becomes thoroughly acquainted with our organization before he submits his application and immediately forms a higher estimate of his fellow-practitioners and is enlisted as one of the workers for the benefit of the profession.

To do justice to yourself and the members of your society some time and thought must be devoted to this task, but you will find that, if your heart is in the work, it will not require near as much labor as you may now imagine. Preparation for the next issue must be made as soon as the current issue is mailed out. Some interesting bit of general information will be found in your reading; something that strikes you as valuable will probably prove interesting to your readers. This must be clipped and filed away for future use. As you go about your daily work some thought

will come to you that can be made the basis of a snappy, newsy article for the next issue. This must be taken up in your moments of leisure, written out in an interesting way and also filed. Get in touch with all parts of your county and get news items about your fellow-practitioners; get personal items about them and their families. Mention them by name, for it will gratify them to be so noticed and it will help you to fill up your columns. Day after day these efforts will accumulate until long before the month is up you will have more than enough manuscript to fill up your next issue, all ready to go to the printer. Of course, if you delay your preparations until a day or two before you go to the press, you will find it hard work to get the appropriate material and then it will be a source of worry. The editor of "*The Madison County Doctor*" always has enough material in his filing case to fill one or two issues of the paper and some little article is added to this supply almost every day and when publication day comes it is the work of only a few minutes to select enough of this stock on hand to complete the edition. I want to assert right here that any doctor who has brains enough to be a real secretary to a live county medical society has sufficient ability to write, either with pen or scissors, enough to fill four, eight, or twelve pages of a monthly bulletin.

#### DISCUSSION.

Dr. C. D. Pence, of Chicago, said that the two papers just read were by men who know what they are talking about. They have made good as secretaries before they read these papers. The "*Madison County Doctor*," of course, is known to all of you. It is known beyond the confines of this state and you see it quoted from frequently. It has had a great deal to do with the building up of the Madison County Society. The bulletin undoubtedly builds up any society, but to get out what should go in it requires a secretary that has hustle in him, and does not put everything off until the eleventh hour.

The reader of the previous paper (Dr. Foley) has made good as a secretary in Chicago, he has made good in a branch of the Chicago Society that has been one of the hardest in the entire city to handle. The doctors of that branch in which Dr. Foley and myself live are composed of men of many nationalities. There are enough men of several nationalities to form "cliques," and they do form cliques in that way, so it takes a hustler to get around and get those cliques together. Dr. Foley has succeeded in doing that. Printers' ink is one of his methods, but back of that a society has got to have a man who hustles, who hustles at the right time, as I am quite

confident that both the writers of these papers have done.

It would seem to me that in electing a County Secretary, that when a society gets a live secretary and one who is fitted for that special position—and many of us are not fitted for it—they should keep him there. I think the secretary is one of the men who should not be taken out of the position, but kept there as long as they can keep him. I wish that this organization could educate more secretaries like Dr. Fiegenbaum and like Dr. Foley for the various county societies in the state. If we had more secretaries of their type we would have more county societies that were active; there would not be so many men throughout the state who are not members of the society.

Another feature of a secretary that I would like to bring up, is that he must do the work at the right time. The society now has a matter pending which will probably cost one of the members—will either cost one of the members or the society—about three hundred dollars, and as I see the case at the present time, that cost is due to the slowness or the inactivity of the secretary. Those things should not be. We all realize that the secretaries have things to take care of aside from their work as secretary, but if they accept the office of secretary of a medical organization they must expect to give it the time and to hustle for the society.

---

## HOW TO PROMOTE THE INTEREST AND ATTENDANCE IN OUR COUNTY SOCIETIES.

ANDY HALL, M. D.,  
MT. VERNON, ILL.

There are only two things that will induce the average physician to close his office and spend a few hours once a month attending a county medical meeting. One of these is profit and the other is pleasure. Hence, if we will arrange our programs so that when a physician spends an evening with us we can add something to his store of knowledge that will enable him to do better work than he did before, and if the social program has been such that he will remember with pleasure an evening spent with congenial friends, who are ever ready to meet, greet, and assist him in his professional work, he will become interested and attend other meetings. In fact he will look forward to these meetings with as much pleasure and enthusiasm as does the small boy to the coming of Thanksgiving Day, Christmas and the Fourth of July.

But on the other hand if our scientific program has been a frost and a failure, and if two or three

of the physicians present have carried "chips" on their shoulders and have consumed most of the time in washing their "dirty linen" and airing their personal grievances, a physician who values his time and has any self respect will shun us as he would a den of poison vipers.

The members of the local society should be encouraged to prepare, read, and discuss the scientific papers. Most of the county societies have several men who have had much experience in the practice of medicine, surgery and the specialties, and are perfectly competent to prepare interesting, instructive, and creditable papers. There are other members of the society who *think* they can prepare good papers, and they, too, should be given an opportunity occasionally, to tell what they know.

The man who delves down into medical literature and prepares a scientific paper will learn many important things that he will never forget. He will derive more benefit from the preparation of his paper than will any other member of the society. It has been our observation that a paper read by local talent will be more freely discussed than one read by some important "Big gun" from Chicago, St. Louis or Champaign. Hence the important points will be emphasized and the members will derive most benefit from it.

It is highly essential to make every member feel that he is an important member, that you want him to take an active part in the discussions, and give him an opportunity to prepare a paper or report some interesting case. Don't let a few "High brows" run your society, but give every member an opportunity to be seen, heard, and consulted about things pertaining to its welfare.

There is nothing that is more humiliating to the officers, disappointing to the members, and hastens dissolution of your society faster, than the failure to have a good scientific program ready for each meeting. There is seldom any excuse for this condition if the secretary is onto his job.

Never arrange with three or four members to furnish papers on three or four important subjects for the same meeting; for the chances are that they will each say, "We will let George do it this time," and they will all be absent, or if present will be unprepared. Recently I received an invitation to attend a medical meeting in an adjoining county. On the program were four men, assigned to discuss four important subjects. In conversation with the secretary of that county



a few weeks later, he informed me that not a single essayist put in his appearance. "What is everybody's business is nobody's business."

It has been our custom to exact a promise from only one member to prepare a paper for a meeting. We let him understand that his will be the only paper on the program, and that it is up to him to make good. Not more than twice in the past two and a half years has the essayist failed to be on hand with a good paper—on both occasions we were notified in time to make other arrangements. When you have exhausted your local talent, and not until then, invite some good physician from some of the adjoining counties or neighboring cities, to address your society.

One good paper on some timely subject, followed by a free discussion is enough for one evening's scientific program, and is of more value than two or three indifferent papers on as many subjects hastily passed over.

Ordinarily the scientific program should not last longer than one and a half hours. When this has ended, do not grab your hats and rush for home, for one of the most interesting parts of the program should follow. Meet all the members and especially any visitors that may be present. Have some refreshments, some music, some readings, some good stories, some games or other entertaining diversion. It is time well spent, and will bear fruit in producing good fellowship between the members, and in an increased attendance in your meetings. I have my personal opinion of any physician who will smoke a cigar or drink anything stronger than coca-cola. But most physicians like a good cigar. And in the dry counties of Egypt you would be astonished at the number of physicians that will drive ten to fifteen miles, and patiently sit an hour or two listening to the scientific program, in order to get a few bottles of that beverage that made Milwaukee famous! •

In counties where the membership is small you can frequently discuss some subject of common interest to the dentist and druggist, and invite them to attend your meetings. It is also a good idea to have at least one or two open meetings during the year and discuss some subject of interest to the public.

In mailing out notice of your meetings do not send a postal card or a printed program under a one-cent stamp; for they will probably find

their way into the waste basket unopened and unread. A better way is to write each member a personal letter, sign your name in ink, and mail it about one week before the date of meeting. On the date of meeting we have each member that can be reached, called over the telephone and again reminded of the meeting. If a member has been absent at a meeting, we often add a few lines to his notice telling him about the many good things that he missed and urge him to be present at the coming meeting.

It is possible that the interest and attendance in county medical meetings can be maintained by using other methods than the methods here suggested; but I do know that these methods have worked well in Jefferson County, as a glance at the secretary's record will show.

Our county society was organized in August, 1904; the first few years following we had several good meetings. Then things began to drag; sometimes we had a good attendance and no scientific program ready, at other times the program was ready but no quorum was present. Finally, when the meeting-day rolled around, we had neither program nor quorum. We had thirty active physicians in the county, but with the methods in vogue at that time, it was not possible to have a successful meeting. About one-half of the physicians had no use or professional respect for the other half, and medical ethics in a measure became a lost art. During the year 1913 only two meetings were held—one in January and one in June. At the June meeting we had no program. But from the secretary's report I find that "This meeting was called for the purpose of discussing ways and means by which the members may be induced to take a greater interest in the Society." Notwithstanding many heroic remedies were suggested and tried, we were unable to resurrect the patient or find any evidence of life until more than six months had passed.

In January, 1914, we elected new officers, who adopted the methods I have attempted to outline, and we have continued them ever since. During the year 1914 we had ten good meetings, with an average attendance of eighteen physicians. During the year 1915 we had seven meetings, with an average attendance of more than twenty-three physicians. Including visitors, during the past year our average attendance has been thirty. Out of thirty eligible physicians in Jefferson County,

twenty-eight are members of this society, and their dues are all paid in advance. The fraternal feeling between the physicians in our county is the best in the history of the county.

#### DISCUSSION.

Dr. J. W. Dunn, Cairo, said, concerning the doctor's apparent criticisms of the occasional custom of sending to Chicago or St. Louis or some other place for a "high-brow": As a general thing I admit that it is not a good thing to do, if you do it at the expense of local talent. It is always best to have your local talent interested sufficiently to get them to respond to a call for a scientific program. However, I do not believe that it is altogether the best thing to be done to wait until local talent is exhausted before you send for the "high-brow." I believe that the occasional visit of a so-called "high-brow" from the cities is beneficial to the county medical society, even before the local talent is exhausted. I believe it adds interest. My experience has been that on those occasions we frequently have a larger attendance than on other occasions and that we have a deeper interest, a great many of our men coming out and listening to a man from abroad, when we found it impossible to get them out to hear one of our local men.

The other point I wish to notice is this: What the doctor said about the beverage that makes Milwaukee famous. We will not turn this into a prohibition campaign or a discussion pro and con, but as scientific physicians I simply want to drop this observation, as recommendation to keep up interest in a local society I think it is a bad thing to adopt.

Dr. Fiegenbaum agreed with the writer concerning three or four subjects for any particular meeting. For many years the Madison County Medical Society has met twelve times a year and they have only one subject for each meeting. One speaker reads a paper or gives an address on that subject and the men who are to discuss that subject are notified in advance of such an appointment and told to be ready, and nothing else is brought up in the scientific program of that meeting except that one particular subject. Any subject in medicine is large enough to occupy the attention of a county medical society for one meeting, and it is a waste of material to introduce three or four speakers on three or four subjects.

Another thing. The Madison County Medical Society is fortunate in this, that it is addressed by a "high-brow" at every meeting. We are very fortunate in Madison County in having a great many "high-brows" residing in that county. And it doesn't make much difference to us where the "high-brow" comes from, whether it is in our county or an adjoining county, whether it is in our state or an adjoining state, so that the "high-brow" brings us an interesting and instructive message. It is true we do not confine our speakers to our own membership, and we hail with delight the occasional visit from abroad,

but as far as our members are concerned we can see no difference in the message.

Dr. W. F. Grinstead, Cairo, said we must not judge the importance of this series of papers that have been presented here this afternoon by the amount of discussion that they have brought out. These papers will be read, even by those of us who have heard them; we will read them when they are published, when we are at home and have more time and a better opportunity to think them over. And they are going to be read by, I was about to say ten times as many people as have heard them here this evening.

The doctor had recently learned that the members who do not attend society meetings have an excellent opinion of medical societies and medical society work. In a certain county society report the names of all the members who attended were given, and in connection with their names, their office addresses were given. The idea as afterwards brought out was to lend a little encouragement by publicity to these men who had attended and to let the public know who the county doctors were who were interested in the medical organization and in threshing out among each other the knotty problems of their work. It just happened that in that county there were only a few doctors that did not attend, but from them there was a storm of indignation stirred up. The publicity of their absence was the point. The fact that the public were made aware that they did not attend and that they were not interested in medical organization made them furious.

He advocated clinical reports of cases at meetings as were valuable. By this method every member who attends meetings of the county medical society is ready to help his neighbor solve the knotty problems of his work.

Dr. D. W. Miller, of Gilman, mentioned another phase of the subject. We have found it to be an advantage to have one social meet during the year on different lines. One year we had a fish fry; went to the river, took our wives and daughters and families and had a social time and spent the day that way, and several times we have had banquets and met in the evening, and the younger portion of the profession dance and get acquainted with each other. We have brought in some members that I do not think otherwise would have been brought to us. They saw there was something else in it besides work. All work and no play makes a dull boy, and we come to get acquainted with each other.

#### FULL TERM ECTOPIC GESTATION WITH REPORT OF CASE.

G. W. GREEN, M. D., AND J. J. MOORE, M. D.,

From the Ravenswood Hospital and the Department of  
Experimental Medicine, University of Illinois.

CHICAGO.

Several cases of full term ectopic gestation have been reported during the last few years,



each of special interest to the surgeon, gynecologist and obstetrician. McDonald<sup>1</sup> collected 245 cases up to 1911, 211 of these being reported after 1887. The increasing reports of such types of gestation indicate that the present careful and more perfected methods of diagnosis, especially with the aid of radiography, reveal many instances that formerly were overlooked.

Full term extra-uterine pregnancy commonly results from tubal gestation rupturing into the space between the folds of the broad ligament. In fact, Tait believed that this was the only circumstance in which extra-uterine pregnancy could develop to full term. After such a rupture, the sac is completely retroperitoneal and in growing, dissects the posterior parietal peritoneum to involve the meso-ecum. This condition is termed extra-peritoneal or broad ligament pregnancy by Williams<sup>2</sup> and tubo-ligamentous by McDonald.<sup>1</sup> Occasionally growth of the fetus within the folds of the broad ligament goes on to full term, but most cases of so-called full term broad ligament pregnancies develop posteriorly to this ligament.

The placenta may assume various shapes and forms, but the more common variety is flattened, discoid in shape and thin. Microscopically the fetal portion of the placenta is identical in structure with that found in uterine pregnancy. It is attached usually to the posterior layer of the broad ligament in the cul-de-sac of Douglass and receives its vascular supply from the utero-ovarian vessels or from the lower mesenteric, the latter being especially true when the post-parietal peritoneum has been dissected up.

The fetal sac at full term is usually made up of fibrous tissue and the flattened tube wall. It is usually tough and fibrous, but may be friable, which is frequently the case when the fetus is dead. It varies in thickness from 1 mm. to several centimeters. The ovary may be flattened and incorporated in the surface of the sac, the tissue being recognized with difficulty. Muscle cells arising from the muscularis of the tube are found in small number. The inner surface is covered with amnion. When the gestation occurs retroperitoneal, a sac is always present, but several cases are on record where the fetus developed with no sac surrounding it. The life of the fetus

depends not upon the integrity of the sac, but upon the nourishment of the fetus through the intact placenta and cord. Rupture of the sac is not common after the fourth month.

The liquor amnii is small in amount and straw colored unless the fetus has been dead for some time, when it becomes blood stained.

The cord is usually shorter and thicker than in the uterine gestation.

The fetus is on the whole smaller than is a normal pregnancy, and frequent deformities from pressure and malnutrition are present. Sittner reports 5 cases in 17 dying from deformities.

Spurious labor pains set in at term which may last only a few hours to weeks. The cessation of these is coincident with the death of the fetus as a result of dislocation of, or hemorrhage into the placenta. After the death of the fetus the secretion of amniotic fluid ceases, it is absorbed, and the abdominal tumor decreases in size. It requires, according to McDonald, 2 to 6 months after the death of the fetus before there is entire obliteration of the placental vessels and marked lessening of the circulation.

Report of case. Mrs. Anna S., aged 38 years, married 22 years, housewife. Referred by Dr. W. K. Yeakel, March 28, 1914.

*Family History:* Father dead, aged 67 years. Abscess of lung. Mother living and well. Five sisters alive and well. One sister died of dysentery at 15 months. Two brothers alive and well. One brother had measles at 19 months and died.

*Diseases of Childhood and Puberty:* Patient had measles and mumps with good recovery. When about 16 years old she had rheumatism for twelve weeks. The latter part of the same year she had typhoid fever. At 18 years she had diphtheria.

*Menstrual History:* Began at 13 years of age, regular every 28 days, duration four or five days. Some pain the first day of flow. This has been worse the last two or three years.

Married at 17 years of age. Husband living and well, although periodically addicted to use of alcohol. First child born two years after marriage and is alive and healthy. Patient states she could not become pregnant until she had a physician dilate her womb.

One artificial abortion when three months pregnant when the living child was 10 months old. This was induced by and on the advice of her family physician. Patient was sick about two months from this abortion and finally had to be curetted by another physician while away from home, before she became well.

Patient said she always wanted more children but her periods have been regular for the past eighteen years.

1. McDonald: N. Y. Med. Jour., 1911, xciv, 1059.

2. Williams: Obstetrics, 1910, D. Appleton & Co., New York, p. 642.

No leucorrhea during menstrual history but has taken two or three vaginal douches per week.

*Present Illness:* Has not been feeling as well as usual during latter part of April and fore part of May. Felt weak and chills occasionally, pain across the lower part of abdomen. Could not do her house work without getting tired, which was unusual.

On May 12, 1913, commenced her last menstrual period. This was her regular time; the flow was normal in quantity, color and time, stopped on the 17th.

On the 20th the flow began again and continued rather profusely until June 21. This was accompanied with considerable discomfort in lower part of abdomen, so much so that she visited a physician on June 18, who made a vaginal examination; and prescribed one dozen vaginal suppositories and soap and water vaginal douches, which caused the flow to cease in three days. At this time she thought her breasts were enlarged and tender.

July 10, 1913, patient had severe attacks of pain across the lower part of the abdomen, says she could not rest in any position. Thought it was "cramps." She used hot water bottles on abdomen and the next morning it was nearly gone. There was no flow at this time. The latter part of July she saw her physician who diagnosed pregnancy and found milk in her breasts.

August 7, 1913, patient had another severe attack of pain, "a peculiar pain in lower part of abdomen that seemed to come up through the mouth," which was so severe as to cause vomiting and fainting several times. The pain lasted all night. A physician who was called ordered hot compresses to abdomen. No vaginal flow. After this attack, patient has always felt faint and more so when her bowels moved.

Abdominal enlargement began early and was quite marked from the beginning.

Life was felt about the middle of September. From September on, the abdomen became very large and patient was obliged to spend a good part of her time in bed as standing was difficult on account of general weakness and pain in back. Always had a pillow under back when lying down. Visited her physician in October on account of general discomfort, but physician made no vaginal examination. In January, 1914, had sharp pains running down the back and occasionally they radiated into the abdomen, but never into the rectum. These did not seem like labor pains.

On February 11, 1914, had periodic pains in the pelvis every five or ten minutes. Physician called and vaginal examination was made. Breech presentation diagnosed and the prediction made that baby would be born in about two days. These pains disappeared after having lasted about two days. Fetal movements which had been quite marked up to this time now ceased. After this, patient was unable to get out of bed alone and had to be lifted up and down in bed. A bloody vaginal discharge now commenced, the blood was clear on some days and on other days it was dark. This continued until patient entered the

hospital. Appetite was lost at this time but partially regained in March.

Every afternoon about 4 o'clock patient felt feverish and this was followed by a chilly sensation.

She thought abdomen was growing smaller. Had pain when reclining. Two weeks before entering the hospital experienced a sharp pain in the abdomen which felt like something tearing loose on the inside of the region of the naval. Sleep poor since fetal movements ceased. Has had fever, 101, for several weeks before entering Ravenswood Hospital on March 28, 1914. Patient states she had not had a night's sleep since February 11.

*Physical Examination:* Showed a medium sized fairly well nourished, but rather thin woman of about 38 years of age. The eyes slightly jaundiced, skin yellowish brown color and dry.

Heart and lungs normal. Abdomen much enlarged, probably a little more on the right than on the left side. Marked pigmentation especially the linea alba.

External examination shows a tumor, without question a fetus with pelvic presentation back to right side and slightly posterior, head flexed to the left. Small fetal parts felt in the right lower quadrant. Some tenderness over a small palpable tumor mass located just above the symphysis and left Poupart's ligament. Tumor feels to be one-half to three-quarters inches thick, about 4 inches wide and upper part is oval in contour and it feels as if it were attached to the large tumor mass.

*Auscultation:* No fetal heart sounds heard after repeated examinations. Very marked uterine soufflé heard best a little to right and above the umbilicus.

X-ray showed fetus in breech presentation.

Vaginal examination not very satisfactory on account of tenderness of patient. Cervix was soft and nearly obliterated and easily admitted one finger to internal os; on right of cervix a soft mass was felt which was thought to be the placenta.

Urinalysis, negative; blood examination, negative; temperature, 99.4, 100.4 F.; Pulse, 90, 100; respiration, 22; Wasserman, negative.

*Operation, March 30, 1914.* Median abdominal incision extending from two and one-half inches above the umbilicus to the symphysis pubes. The gestation sac and contents was situated retroperitoneally more on the right side. No right ovary or tube was found. The uterus was slightly enlarged, very soft and extensively flattened anterior-posteriorly and situated to the front of and to the left of the gestation sac. The left ovary was flattened and cystic. Left tube somewhat enlarged.

Strong bands of adhesions containing large blood vessels were found running from the omentum into the peritoneally covered sac. On the right side the ureter was found stretched over a portion of the tumor. The left ureter could not be seen.

The adhesions and blood vessels coming from the omentum were ligated and severed. The peritoneal covering of the sac was incised from above down, a distance of twelve or fourteen inches. Peeling this



off from both sides of the gestation sac the sac and contents were peeled out en mass without opening. The chief site of attachment was found to be in the right side of the pelvis posteriorly. After removing the sac the posterior layers of peritoneum were trimmed off and sutured with catgut. The left ovary was left in place. The left tube was removed.

Abdominal wound was closed in the usual manner. No drainage was used. Recovery of patient uneventful.



Fig. 1. Sac and Fetus at Removal.

The removal of the tumor at this time was likely much easier than it would have been just before the death of the fetus at the end of full term.

*Gross Appearance:* The tumor sac unopened measured 21.5 centimeters in diameter. The outer surface was covered with many fibrous tags as the result of adhesions. Upon opening the sac about two quarts of red stained amniotic fluid escaped. A fully developed undeformed female fetus, slightly macerated, weighing eight and one-half pounds was removed.

The upper portion of the sac was 4 mm. in thickness and fibrous in character. The lower portion, containing the placenta, was a circular bowl-shaped mass measuring 7.5 cm. in thickness. (See Fig. 1.) The inner surface of the entire sac was covered by a thin, transparent, smooth amnion, which could be quite easily separated from the tissue beneath. Over the placental portion large vessels could be seen. No distinct separation of the placenta into cotyledons could be observed. The umbilical cord is 45 cm. in length by 1.5 cm. in diameter, and attaches at the margin of the placenta. On cutting into the mass it does not show the structure of placental tissue, but that of a large blood clot, being

smooth, dark colored and containing yellow streaks of fibrin.

*Microscopic Appearance:* Sections were made from several different locations of the sac. Those from the thinner portion contained connective tissue with an occasional muscular fiber. In one series of sections a flattened epithelial structure with columnar epithelium similar to that of the tube was found, and which, in our opinion, is the compressed remnant of the tube. Fig. 2 well represents this compressed tube and the structure of the surrounding tissue.

Sections from the bowl-shaped mass contained placental tissue with chorion villi and blood spaces identical with those found in full term uterine pregnancy, except that degenerative changes were more marked, owing to the retention of the dead fetus for several weeks. However, the placental tissue was not as thick as that in uterine pregnancies. Here and there throughout the placental structure were scattered islands of decidual tissue. Blood and fiber composed the principal part of the structure beneath the placenta. In places small amounts of connective



Fig. 2. Compressed Portion of the Fallopian Tube in the Wall of the Fetal Sac.

tissue could be seen. The outer surface was made up of fibrous tissue similar to that in the upper portion of the sac.

Undoubtedly the large portion of the bowl-shaped mass was due to a hemorrhage which probably occurred at the time of spurious labor. This hemorrhage into the placenta produced the over weight. Briggs<sup>3</sup> reports a case almost

3. Briggs: Proc. Royal Soc. Med., 1911, v, 12.

identical with ours, in which hemorrhage within the placenta caused a similar increase in weight.

PHILIP LEWIN, M. D.,  
CHICAGO.

Constipation may be of two types, atonic or spastic. Atonic constipation is by far the more common type. The spastic variety (1) is due to a spasm of the large intestine as in lead colic, (2) accompanies mucous colitis as in neurasthenics, (3) follows the acute diarrheas.

The atonic variety, concerning which this paper is especially interested, is due to lack of tone of the intestinal musculature and absence of normal peristalsis. The factors involved are seven in number and are as follows:

1. Disturbed innervation of the muscles.
2. Primary weakness of the musculature.
3. Faulty residue due to improper diet, i. e., a residue that is inadequate to stimulate normal peristalsis either mechanically or chemically.
4. Bad habit, i. e., suppression of the desire to go to stool. The patient says he is "in the wrong place at the right time."
5. Sedentary life.
6. Repeated pregnancies causing:
  - (a) Pressure on the bowel by the head of the child.
  - (b) Relaxation of the abdominal wall.
  - (c) Parturitional lacerations of the levator ani muscle.
7. Stillér's type (asthenia universalis congenitalis). Tall, thin, nervous, anemic, poorly shaped thorax and abdomen, dyspeptic, viscerotropic individuals in whom everything is lax.

#### THE TREATMENT OF ATONIC CONSTIPATION.

Habit and diet are the two most important factors and will control probably 90 per cent of the cases.

*Habit.*—Habit is the most important factor of all. Everything that follows is aimed at establishing the habit. A good routine is as follows:

1. Arise. If possible retain urine until going to stool.
2. Bathe.
3. A glass of lukewarm water containing a pinch of table salt.
4. Breakfast.
5. Male, shave, etc.; female, toilet.

6. Go to stool. Forbidden: Books, magazines, newspapers. Patient must know why he or she is at stool and should concentrate his or her mind. Patient must remain at stool 5 minutes if necessary, but not longer than ten.

*Diet.*—The diet must furnish adequate mechanical and chemical residue. Meat gives about 7 and eggs 8 per cent residue. White bread and milk give very little residue. The following furnish considerable residue: Rice, oatmeal, rye and graham bread, bran bread and muffins, pumpernickel, carrots, cabbage and parsnips. Rye, graham or bran bread should be eaten with each meal. Potato may be eaten liberally and if baked the skins may be eaten. As to chemical stimulants I shall mention honey, sugar, fruits, lemons, lemonade, buttermilk, cider, apple sauce, figs (syrup of figs contains no figs), apricots, pineapple, marmalades. Honey may be eaten for breakfast, if not desired may use syrup. White sugar is constipating. Milk sugar may be used to sweeten coffee. Sauces at each meal. Apples, stewed figs, stewed peaches, stewed prunes, marmalades. Apples, apricots and figs stewed together are excellent. Patient should have vegetables once or twice daily. Spinach, carrots, parsnips or well cooked cabbage. Raw apples with each meal. Cider and buttermilk between meals. If necessary, in morning take the juice of half a lemon sweetened with glycerine.

Very little condiments, as pickle, pepper, catsup, mustard, horseradish, etc. Avoid irritating food, i. e., chemical, thermal or mechanical irritants. Chew food thoroughly. Water freely between meals.

The following are recipes for bran bread and bran muffins:

#### Bran Bread:

- 2 cups bran flour,
  - 1 cup white flour,
  - 1 teaspoon baking soda,
  - 2 tablespoons molasses,
  - 1 cup milk,
  - 1 egg,
  - 1/2 cup raisins.
- Mix baking soda and molasses first,  
Bake 3/4 of an hour.

#### Bran Muffins:

- 1 cup white flour,
- 4 teaspoons baking powder,
- 1/2 teaspoon salt.



Sift together. Then add:

- 1 cup bran flour,
- $\frac{1}{2}$  cup syrup.
- 1 cup milk,
- 1 egg previously well beaten.

Mix well. Then add 1 tablespoon melted butter. Bake in muffin pans in a moderately slow oven for 30 minutes.

*Hygiene.*—1. Exercise must be regular, in open air and with a definite purpose.

2. Care of the teeth. Patient should have at least two tooth brushes and use them alternately. Dental powder is better than paste. Patient should be taught to brush teeth properly.

3. In cases of visceroptosis a binder or surgical corset is indicated.

4. Massage of abdomen may be very helpful.

*Auxiliaries.*—I have grouped under this heading several points as follows:

1. Agar to increase the residue and enhance the water-content of the intestine. It may be used plain or as "Regulin," a proprietary preparation containing some cascara. The plain should be taken in tablespoon doses, 3-4 times a day; the regulin, 1 teaspoon 3 times a day. Colax is agar in the form of a wafer.

2. Uncle Sam's Health Food is very valuable in some cases.

3. Milk of magnesia is very good to neutralize the frequently associated hyperchlorhydria. 1 teaspoon is taken as needed. Equal parts of magnesius oxidum ponderosum and sodium bicarbonatis may be used for the same purpose.

4. Laxative wafers are frequently beneficial.

5. Prunes and senna as follows:

Steep 5 cents' worth of senna leaves in a quart of water. Turn out gas. Add 1 pound of washed prunes, cover and allow to stand 24 hours. Eat 5-6 prunes each night. Keep in ice box.

6. Mineral oil. American or Russian. As it is a mineral oil it is not absorbed.

Rule 1. Take as much or as little as necessary. The patient must ascertain the dose for himself. Start with 1 tablespoonful after each meal and at bedtime. He may take 8 table-spoons in 24 hours.

Rule 2. Decrease the dose gradually. It is much safer to extend the treatment over several months, decreasing gradually rather than try to

effect a rapid cure. It is advisable to continue taking  $\frac{1}{2}$ -1 teaspoon each night for 2 months after what appears to be a cure.

The oil may be taken with anything the patient desires, viz.: port wine, lemon juice, orange juice, fruit, candy, milk, buttermilk, etc., unless there is a special contraindication. An excellent preparation consists of equal parts of mineral oil and crab apple jelly or jam.

7. Vaseline, 1 teaspoon 2 to 3 times a day has been recommended as a substitute for mineral oil. It is taken between swallows of buttermilk.

8. Phenolphthalein is a valuable adjunct to the mineral oil in the early treatment. It should be discontinued as soon as possible.

9. Enemas.

(a) At night olive oil, 5 to 6 oz. (warm) to be retained.

(b) In the morning  $\frac{1}{2}$  pint of warm water not to be retained.

10. If there is any gross pathology present it must be corrected, viz.: gingivitis, pyorrhea, dental caries, sinus disease, infected tonsils, chronic appendicitis or gall bladder disease, gastric, or duodenal ulcer, hemorrhoids, fistula in ano, lacerations, visceroptosis, etc.

*Conclusion.*—I believe 90 per cent of cases of atonic constipation can be controlled by habit and diet. Of the remainder, 9 per cent can be controlled by the addition of mineral oil. The other cases can be relieved by the other measures given.

I desire to repeat that habit is the most important factor.

30 North Michigan Blvd.

## THE MICROSCOPICAL EXAMINATION OF FECES AND ITS CLINICAL SIGNIFICANCE.\*

S. M. WYLIE, M. D.

PAXTON, ILL.

The microscopical examination of feces is recognized today as an important but neglected field in clinical medicine. It not only supplements all other means employed in the diagnosis of gastro-intestinal diseases, both structural and functional, but adds positive diagnostic information of great practical value.

\*Read at meeting of Iroquois-Ford Medical Society, June 6, 1916.

The physical, chemical, Roentgenographic and microscopical examination of the gastric contents, both fasting and after the usual test meals, has become a routine procedure, but since the stomach is the seat of the disease less frequently than the intestinal tract, and in view of the fact that fully nine-tenths of the digestion and absorption of foods takes place in the intestine, the importance of knowing more than we do at present concerning its disturbances becomes apparent to us all.

Impairment of motility, digestion and absorption results in disturbed metabolism, physical deterioration, and not infrequently death.

The microscopical findings, supplemented by the chemical, are employed in determining the presence of undigested: 1, proteids; 2, carbohydrates; 3, fats; 4, connective tissue; 5, mucus; 6, pus; 7, blood; 8, bacteria; 9, protozoa; 10, parasites and their ova, and finally cellular elements, spiral cells, plant hairs, cellulose and many other things that have no relation to the stomach.

As the Ewald, Boas, or some modification of test meals is used in stomach analysis, the Schmidt test meal, or one similar, containing a definite amount of proteids, carbohydrates and fats is given for three days for an intestinal test meal. With the first and last, 10 grains of charcoal, or .3 grain of carmine is given to stain the feces, and indicate to the examiner that he is getting the feces he wants for examination. After inspection for the gross appearance visible to the eye, a portion is taken both from the exterior and interior of the mass, rendered fluid by the addition of sufficient water to make it spread rapidly upon the slide, and enough 5 per cent formaline added to the container (which is usually a large mouthed bottle holding about an ounce) to overcome the offensive odors caused by skatol, sulphuretted hydrogen, or the putrid odors of ulcerative processes. A drop from the fluid feces is placed upon the slide without further preparation, and a cover glass placed over it. It is first examined by a low power, about 2/3 objective, searching the entire field carefully for any objects that may challenge our attention, and if higher magnification is desired a 1/6 objective is used for a more critical study.

The stool should be natural, not that from a cathartic.

To recapitulate in the order named, search should be made for evidence of:

1. Proteid indigestion. Conclusive evidence of this may be shown by finding abundance of muscular fibers of meat or fish when only moderate quantities have been taken. Usually we find two or three small, partly digested, colorless masses in the field, without transverse striation visible. But when we find them in bundles or masses with deeply yellow, or yellowish tint, with the ends square or slightly rounded, and both the longitudinal and transverse fibers distinctly visible, we have conclusive evidence of proteid indigestion, either from disordered function or possibly from an unusual amount ingested, a fact which can be ascertained by inquiry into the diet habits of the patient. The intestinal wall is unstriped, therefore there is no danger of confounding muscular tissue from food, with that of the intestinal wall resulting from destructive inflammatory processes there, no matter how much pus, blood, mucus and putrid odor may be present.

2. Carbohydrate indigestion is positively shown if free starch is found in the stools. Since thoroughly cooked carbohydrates are the most easily digested form of food and constitute such an important part of it in the shape of potatoes, beans, rice, oatmeal and the like, the empty cells may be found and occasional granules showing the concentric rings clearly defined, but any doubt as to the character of the objects may be dispelled by adding a drop of Lugol's solution to the preparation. The characteristic blue stain of all starches gives positive evidence of its presence, and often in surprising amounts.

3. Fats constitute one of the most important elements of food. It is important here too, to know the quantity taken to determine whether there is failure of absorption, due to increased peristalsis hurrying it along the tube; imperfect digestion, due to obstruction of the bile duct interfering with its saponification; or deficiency in the pancreatic enzymes which convert it into fatty acids and glycerine.

Normally over 90 per cent of the fats entering the body are absorbed.

If fats are converted into fat derivatives, such as fatty acids, soap needles, and insoluble compounds of magnesium or calcium crystals, they are lost to the body as food.

Fat globules show faulty digestion; soap needles and other forms, faulty absorption.

Neutral fat globules stain a beautiful yellow red or red color with Soudan 3.



Fatty acids and soap needles both appear as crystals, colorless, spindle-shaped, single or in sheaves, but are differentiated chemically.

If the slide is held over the flame of a bunsen burner until it boils vigorously, the fatty acid crystals melt into globules, which take the Sudan 3 stain showing a bright red color, and does not stain the soap or soap needles.

Magnesium soap crystals are large, highly refractive bodies, oval, or circular in shape, with broken granular centers which usually require 36 per cent. acetic acid to break them up and dissolve them and heating them as before, they appear in globular form like neutral fats.

Calcium soap crystals are the most resistant of all forms, requiring often glacial acetic acid to dissolve them. The sodium and potassium soap needles are more easily absorbed but all are irritants to the intestinal tube; and since it not only requires heat to dissolve fatty acid crystals into fat globules, but requires both heat and the addition of 36 per cent. acetic acid to dissolve calcium soap crystals, they are necessarily insoluble compounds that cannot be converted into food.

There is a practical suggestion to be made here of therapeutic value.

It has been a time-honored custom with us older physicians to dilute the baby's milk with lime water; and give milk of magnesia with milk to adults suffering from gastritis.

As soon as the fats of the milk reaches the intestine, it splits up into fatty acids and glycerine, the latter is absorbed, the former combines with the calcium and magnesium to form an insoluble soap. This is a waste of food. Sodium citrate, 5 per cent. strength, obviates this loss.

4. Connective tissue, if found in the stool, shows faulty stomach digestion, for it should be digested there.

5. Mucus is found in stools as the result of intestinal irritation or inflammation—small quantities not visible to the eye not pathologic. If from the small intestine it is well to remember it has no definite structure like vegetable matter. It is mixed with stool, bile stained and its gross appearance is like tapioca grains, and consists of cells of leucocytes; endothelial, oval, elongated, curved, cordate, spindle-shaped, embedded in a hyaline mass. In masses, with or without pus and blood, its origin is in the lower bowel and

may be significant of any degree of irritation from fecal accumulation to cancer. Microscopical examination is unnecessary when found in quantities for mucus alone.

6. Pus may be discharged into the bowel from an abscess communicating with it, or from some destructive process of the bowel itself—distinguished from leucocytes in that leucocytes are mono-nuclear, while pus is poly-nuclear.

7. Blood. Unchanged blood, originating below the ileo-cecal valve is microscopic, the appearances depending upon whether it is from low down or high in the colon. Blood from the stomach, duodenum, or upper part of small intestine may be in such small quantities (occult blood) as to defy detection by the microscope, or in quantities sufficient to produce tarry stools. It requires about 500 c. c. to give typical tarry stools. The guaiac test, which is a legal test, is used, or the Benzidine test, a newer and far more delicate one, demonstrating blood in from 1/5,000 to 1/50,000 dilution, both positive, and used here as elsewhere for detecting blood in small quantities.

8. Bacteria. The bacteriology of the feces is complex and almost unknown. It offers an inviting field for future investigation, and will repay richly those who give their time and talent to research of the flora in this tropical zone. Infant bacteriology is especially important since the stools of infants contain one-third their bulk of bacteria. Over fifty varieties have been found—both aerobic and anaerobic, some helpful, some harmless and many pathogenic.

The Protozoa. The endameba is of interest to us in that we encounter it in persons who have been visiting tropical or semitropical countries. It is responsible for a very intractable form of dysentery which may last for years unless the cause is discovered, and often results disastrously by causing liver abscess, pyothorax and pericarditis on suppurative processes elsewhere.

The ameba when passed into a warm bed-pan and immediately transferred to a slide—(placing a hot nickel on it if you have no warming stage) is easily found with low power as a glistening, small mass, larger than a leucocyte, motile, changing form, putting out fingers, sometimes slowly, sometimes rapidly, and since it has been accused of being found in pyorrhea alveolaris in

(Continued on page 369)

# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society, under the direction of the Publication Committee of the Council.

## GENERAL OFFICERS, 1915-16

PRESIDENT.....WILLIAM L. NOBLE, Chicago  
 PRESIDENT-ELECT.....E. B. COOLLEY, Danville  
 FIRST VICE-PRESIDENT.....C. F. NEWCOMB, Champaign  
 SECOND VICE-PRESIDENT.....R. A. MCCLELLAND, Yorkville  
 TREASURER.....A. J. MARKLEY, Belvidere  
 SECRETARY.....W. H. GILMORE, Mt. Vernon  
 (Ex-officio Clerk of the Council)

## THE COUNCIL

District 1—EMIL WINDMUELLER, Woodstock.  
 District 2—EDWIN S. GILLESPIE, Wenona.  
 District 3—CLYDE D. PENCE, Chicago.  
 District 4—AUGUST H. ARF, Moline.  
 District 5—C. S. NELSON, Springfield.  
 District 6—C. D. CENTER, Quincy.  
 District 7—C. F. BURKHARDT, Effingham.  
 District 8—C. E. PRICE, Robinson.  
 District 9—FRANK C. SIBLEY, Carmi.  
 CLYDE D. PENCE, *Chairman*, 3338 Ogden Avenue.

Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3338 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

## MEDICO-LEGAL COMMITTEE

ANDY HALL.....Mt. Vernon  
 WILLIAM O. KROHN.....Chicago  
 GEORGE STACY.....Jacksonville  
 D. R. MACMARTIN.....Chicago  
 C. B. KING, *Chairman*.....3988 Jackson Blvd., Chicago  
 THOMAS D. CANTRELL, *Secretary*.....Bloomington

## GENERAL COUNSEL

ROBERT J. FOLONIE.....39 S. La Salle Street, Chicago

State society will pay no bills for legal services except those contracted by the committee. Notify the Chairman at once. Don't employ attorneys.

NOVEMBER, 1916

## Editorials

### SOCIAL INSURANCE.

Just what is meant by this term or what is included in it is not clear. While much talked about at present, few seem to comprehend what may be its meaning, or what it will supply to the community, or what its effect on either society or the medical profession will be. This status of the question is probably due to the fact that no concrete plan of insurance against illness and disability has been worked out, while at the same time the need of a systematic care of those unable to care for themselves and families is acknowledged by every one. The manner in which it may be done is still conjecture.

Whatever will finally come to be included under the name or the term, "Health Insurance,"

it seems morally certain that a social or health insurance in some form is coming, and that soon.

It is given out that during the coming winter at least twenty state legislatures will have bills presented to them relative to health insurance. That all of these bills will be of prime importance to the medical profession is evident.

The idea has, no doubt, come largely from England and Germany, where the common laborer is cared for in a different manner than is custom here. At first thought, enforced insurance would seem to be obnoxious to Americans, and we believe it is, but as thousands of laborers in America are of foreign birth and accustomed to foreign ways, we will be compelled to treat the subject as it is presented. The whole question savors much of paternalism, and paternalism is not American.

Whether or not we like it, the reality confronts us. The welfare workers have perhaps pushed the matter forward, and it will now remain for the medical fraternity to guard its rights and equities. State legislators have the habit of expecting either gratuitous or underpaid services from the medical profession, and if left to them and attorneys for the large corporations, medical services will be paid for on about the basis of European custom.

If health insurance for laborers is instituted, will it include insurance for the laborer's family, and will it provide maternity insurance? Both of the latter phases are of more importance to society than the health insurance for the laborer.

Such health measures, properly provided for, may have bearings on other questions of vital interest to the medical profession, such as free dispensaries, charity hospitals, etc. Whatever form these bills may take, our public relations committees, legislative committees and health insurance committees must be on the alert.

The medical fraternity has always and will always look first to the welfare of humanity, but it must at the same time look to the interest of its own members. Medical service rendered in the interest of social or health insurance must be amply paid for; furthermore, the beneficiary must be in the position of knowing that he is paying for this insurance and the services it brings, thus removing any suspicion of free service and pauperism—the curse of all nations.



## NEW MEDICAL SOCIETY.

There has been organized in St. Louis a new national medical society, "The Medical Society of the United States."

This in itself is not so strange, since it seems to be the tendency of a considerable number of medical men, when they may not dominate the policies of a medical society of which they are members, to start a new society. Perhaps the idea is a good one. At least it possesses the advantage of airing and agitating about all the weak points in the machinery of medical societies, and may at the same time advocate new policies. We are informed that the new society advocates "fee splitting."

A couple of years ago another new society was organized, the principal object of which seemed to have been to belittle so far as possible those members of the profession who did not view the new organization favorably, by implying that they were ignoramuses, and condemning those who practiced "fee splitting" as unprincipled, notwithstanding the fact that a large per cent of the members of this society had promoted "fee splitting" by practicing it.

It is not surprising that we now have another new society, calling by implication the members of the first new society swine and other endearing terms.

We do not believe in "fee splitting," and have never advocated it; yet we do not see that it makes material difference to the patient who gets the money, as long as the patient receives the best service for which he pays. We believe that both the family physician and the surgeon should be paid, the family physician for his diagnosis, advice and responsibility, the surgeon for his operation.

What we fail to understand is why members of our county, state and national associations, when the policy of the societies do not accord with their ideas, begin to condemn their opponents, organize new societies, and tear up things generally, thus helping to defeat not only organized medicine, but also the benefits that could come from organization. If the policies of the official organization are wrong, why not work in the society to correct them? The majority will always finally be right.

The first society referred to is already in its decadence, principally, perhaps, if report be true,

because many of its members continued the "fee splitting" practice. We think much more of a man who splits 50-50 and acknowledges it than we do of the one who condemns it, joins a fraternity and pledges himself not to split fees, and yet continues the practice surreptitiously.

The comical side of the situation is to see those who, without investigation, joined the society probably for selfish motives, and when a little unpleasant notoriety comes, hustle out and ask that their membership be discontinued.

## HIGH COST OF PUBLISHING.

Along with the high cost of living comes an increase in the cost of publishing all periodicals. Our readers may not know it, but the cost of publishing THE JOURNAL has practically doubled during the last few months. In order to avoid a deficit at the end of the year, we are compelled to abandon some progressive features contemplated, including an increase in number of reading pages. When the members of the Association realize that their journal costs them less per member than the members of any other state medical societies pay for their medical journals, the reason for exercising economy in this period of high prices for paper and printing will become apparent.

The Journal of the Indiana  
State Medical Association.

\* \* \* \* \*

The dues to the Indiana Association are now \$4.00 per year. The dues to the Illinois Association are \$2.50, and one dollar of this goes to the Medico-Legal fund. Incidentally the ILLINOIS MEDICAL JOURNAL contains about forty pages more reading matter than is contained in the *Indiana Journal*.

## ABOUT MEDICAL JOURNALS.

*To the Editor:* In the June number of the Russian Review we comment on your excellent article on Pavlov, which appeared in the April issue of the *Medical Review of Reviews*.

A Russian physician desires to subscribe to five or six of the best medical journals in the United States. Which ones should we recommend to him?

31 E. 7th St., New York.

The Russian Review.

Answer by Editor.

\* \* \* \* \*

If you are looking for monthly magazines devoted to general practical medicine, you can be supplied, but here it is necessary to be wary, for here we find the worst representatives of American medical journalism. Many of the official organs or state journals are unreadable, but there are two conspicuous excep-

tions: the ILLINOIS MEDICAL JOURNAL and the *South-  
ern Medical Journal*. Of the independent monthlies,  
*Therapeutic Gazette* and *Interstate Medical* can be  
recommended to the general physician.

Medical Review of Reviews.

\* \* \* \* \*

Thank you. This compliment, coming from  
so high an authority, we pass on to our readers,  
for it is the members of the Illinois State Medi-  
cal Society who make the value of our JOURNAL.

MODERN HUMANITARIANISM.

The present era is permeated with a strong  
sentiment of opposition to cruelty in every form.  
On one hand we see the greatest philanthropic  
organization in the history of the world devoted  
to the relief of suffering in Belgium. Another  
aspect of this sentiment is the modern idea that  
crime is largely due to mental defect or disease  
on the part of the criminal. The refinements in  
the diagnosis of feeble-mindedness enable the  
courts to separate these victims of heredity from  
the criminals due to vicious associations. But  
few communities are prepared to follow these  
offenders to the logical conclusion, viz., perma-  
nent confinement with self-supporting labor. If  
the present trend continues the prosecution, in  
addition to overcoming the "presumption of inno-  
cence," will also have to assume the probability  
that the culprit is mentally irresponsible!

A recent occurrence in the criminal court is  
*à propos*. A man 65 years of age was convicted  
of criminally assaulting a young girl. Being in  
poor health, it seemed probable that a prison  
sentence would be "for life." The judge there-  
fore gave the prisoner his choice of prison or  
sterilization. He chose the latter and the opera-  
tion of vasectomy with stripping of the spermatic  
veins was performed by the jail physician.

The papers announced that the judge assumed  
that the sterilization would prevent the patient  
from "disseminating disease." The fact that  
vasectomy does not interfere with sexual desire  
or intercourse, but removes the restraint due to  
the fear of procreation seemed to have been over-  
looked. Medical men were naturally anxious  
that no travesty on justice had been done. It  
seems probable that the operation will in time  
cause an atrophy of the testicles. Whether it  
will prevent the dissemination of disease time  
will tell.

RESULTS OF THE PHYSICIANS' EXAMINA-  
TION HELD BY THE STATE BOARD  
OF HEALTH, IN CHICAGO,

June 21, 22 and 23, 1916.

Physicians: Present, 287; passed, 229; failed, 50;  
incomplete, 8.

PASSED.		Year of	Total No.
College.	Grad.		Passed.
Bennett .....	1915		2
Chicago College M. & S.	1911(1),		
1913(1), 1914(2), 1915(3) .....	1916(61)		68
Eclectic, Cincinnati .....	1916		1
Hahnemann, Chicago .....	1916		9
Jenner Medical College .....	1916		2
Loyola University .....	1916		25
Northwestern .....	1916		17
Ohio State University .....	1916		1
Rush .....	1915(1), 1916(36)		37
St. Louis University .....	1915(4), 1916(11)		15
University of Illinois .....	1915(2), 1916(46)		48
University of Louisville .....	1916		2
University of Pennsylvania .....	1906		1
University of Toronto .....	1910		1
			229
FAILED.			
Bennett .....	1914(1), 1915(1)		2
Chicago College M. & S. ....	1915(1), 1916(9)		10
Chicago Hospital College of Medicine.	1915		3
Detroit College of Medicine .....	1904		1
Hahnemann, Chicago .....	1914(1), 1916(1)		2
Howard Univ., Washington, D. C. ....	1914		1
Illinois Medical College .....	1910		1
Imperial University, Moscow .....	1895		1
Jenner Medical College .....	1915(1), 1916(2)		3
Loyola Medical College .....	1913(1), 1915(2)		3
Meharry Medical College .....	1913(1), 1915(2)		3
Minnesota Hospital College .....	1884		1
National Univ. of Arts and Sciences,			
St. Louis .....	1916		1
Northwestern .....	1916		2
Reliance Medical College .....	1911		1
Rush .....	1916		1
University of Illinois .....	1914(1), 1916(1)		2
University of Louisville .....	1913		1
			50

MEDICAL CORPS OF THE NAVY.

Legislation has recently been enacted which will  
provide for approximately 300 additional medical of-  
ficers in the Medical Corps of the United States navy.

The pay ranges from \$2,000 per year, with quarters  
or an allowance therefor, for assistant surgeons with  
the rank of Lieutenant, Junior Grade, to \$8,000 with  
allowances upon attaining the grade of Medical Di-  
rector, with rank of Rear Admiral of the upper half.

Applicants must be between the ages of 21 and 32  
years, citizens of the United States, and must submit  
satisfactory evidence of preliminary and medical edu-  
cation. The examination for appointment in the  
Medical Corps consists of two stages, the first stage,  
securing appointment in the Medical Reserve Corps,  
and the second stage, securing an appointment as a  
commissioned officer in the regular Medical Corps.

After the candidate passes the preliminary examina-  
tion he attends a course of instruction at the Naval  
Medical School. During this course he receives full  
pay and allowances of his rank, and at the end of the



course he takes a final examination. Two of these courses begin each year, one commencing about the first of October, and the second course beginning early in February.

The examinations are held in several of the coast cities in the United States, both on the east coast and the west coast, and also at Chicago, Ill.

Literature describing the Navy as a special field for medical work, and circulars of information for persons desiring to enter the Medical Corps, may be obtained by addressing the Surgeon General, U. S. Navy, Navy Department, Washington, D. C.

## Public Health

### THE NEW PUBLIC HEALTH IN ILLINOIS.

#### GRATIFYING RECOGNITION OF RECENT ACCOMPLISHMENTS OF THE ILLINOIS STATE BOARD OF HEALTH.

From the report of the Committee on Recent Advances in Sanitary Laws, Organization and Practice, a report read at the annual meeting—1916—of the State and Provincial Boards of Health, we extract the following reference to work recently accomplished by the Illinois State Board of Health:

ILLINOIS—Great progress has been made in Illinois by recent legislative enactments having sanitary significance. The state has been divided into five sanitary districts, over which a full-time health officer presides, under the direction of the secretary of the State Board of Health. This guarantees that each district will have a competent health officer continuously on duty, prepared to answer all calls, always in close touch with the State Board and available in emergencies. Among the duties of the district health officer, one of the most important is the organization of conferences or schools for local health officers in their various districts. Your committee considers this an excellent idea.

A state epidemiologist has also been provided for, acting under the direction of the secretary of the Board. He is to settle disputes in diagnosis and when epidemics occur he will be required to take charge of the infected community.

A Bureau of Sanitary Engineering has also been created and is rendering good service, particularly in typhoid fever outbreaks, establishing safe water supplies, educating the people how to prevent future infection and in other ways assisting to curtail the ravages of unnecessary diseases.

The free laboratory service of the Board has been extended and branch laboratories have been established at Chicago, Mount Vernon, Urbana and Galesburg.

Several of the laws passed by the forty-ninth General Assembly of Illinois, while applying only in a limited way to the public health, impose new duties on the State Board of Health. Notably, the law authorizing the establishment of tuberculosis sanatoria by special tax in counties provides all county

sanatoria so created must meet the approval of the State Board of Health.

The State Board is also required to cooperate with the superintendent of public instruction and the state architect in establishing standards of sanitation for school buildings and condemning school buildings deemed unsafe.

The publications of the Board show careful supervision and are up to date. Altogether, Illinois has made wonderful progress, and the many commendatory remarks for the Illinois Board and its hustling and efficient secretary are well earned and appropriate.

### ELIMINATION OF OTHER PRACTITIONERS UNDER NEW SCHEDULE.

#### HELD FOR THE FIRST TIME IN OCTOBER.

As previously announced in these pages, the Illinois State Board of Health has adopted a new schedule for the examination of drugless healers and midwives and the first examinations held under the new schedule took place in Chicago on October 10, 11 and 12.

Under the old schedule, the examination for drugless healers was made up of seven subjects. Under the new order of things, there are ten additional subjects, making seventeen in all. The old and new schedules compare as follows:

#### OLD SCHEDULE.

- I.—Anatomy.
- II.—Chemistry.
- III.—Physiology.
- IV.—Pathology and Histology.
- V.—Symptomatology.
- VI.—Hygiene.

#### NEW SCHEDULE.

- I.—Anatomy.
- II.—Chemistry, Etiology and Hygiene.
- III.—Physiology and Neurology.
- IV.—Pathology and Bacteriology.
- V.—Physical Diagnosis, Ophthalmology and Otology, Pediatrics.
- VI.—Gynecology, Laryngology and Rhinology, Medical Jurisprudence.
- VII.—Practice.

The questions in the seven groups of subjects were identical with those asked physicians who were examined at the same time. In fact, under the present arrangement, drugless healers and physicians are given the same examination, except that additional subjects are covered by those seeking license to practice medicine and surgery in all their branches. These additional subjects are: surgery, obstetrics, materia medica and therapeutics. The reason for this difference is that the law does not authorize drugless healers to practice operative surgery or obstetrics, nor can they use drugs or medicines internally in their practice.

The examination papers on the subject of "practice" written by other practitioners will be graded by selected members of the various schools of healing who have been engaged by the State Board of Health for this particular purpose.

Another departure from former customs in the examination of drugless healers is the requirement that these practitioners must meet certain educational standards, preliminary as well as professional. They are now graded on education and training as follows: Graduation from an approved high school with four-year course, 20 credits; graduation from an approved teaching institution with four-year course, 70 credits; other training or experience tending to qualify the applicant to practice the healing art, 10 credits or part thereof.

While the educational requirements are not yet so high as those enforced in the case of physicians and surgeons, they represent a very distinct advance over former years when there were no requirements whatever.

That the higher requirements will be effective in eliminating a very large number of improperly equipped candidates is evidenced in the greatly reduced numbers who appeared for the first examination under the new schedule. At the last examination held under the old schedule there were 188 candidates present. At the first examination held under the new schedule there were but 42.

#### RAISING STANDARDS OF MEDICAL EDUCATION IN ILLINOIS.

At a meeting of the Illinois State Board of Health, to be held in Chicago on November 10, a resolution will be introduced and, in all probability adopted, providing for six years of medical training for all persons matriculating after January 1, 1917.

The resolution will provide that the sixth year of the medical course shall be a hospital internship in a hospital approved by the Illinois State Board of Health. All graduates of the year 1922 and of all subsequent years must meet this requirement.

#### IMPORTANT DECISION RESTS UPON ACTION OF PHYSICIANS.

##### ILLINOIS WILL BE A REGISTRATION STATE WITH PHYSICIANS' HELP.

FEDERAL OFFICIAL VISITS STATE TO DETERMINE  
COMPLETENESS OF BIRTH AND DEATH RECORDS.

ALL UNREPORTED BIRTHS AND DEATHS SHOULD BE  
REPORTED IMMEDIATELY.

MEANS MUCH TO THE SUCCESS OF PENDING LEGISLATION  
WHICH WILL BE OF BENEFIT TO PHYSICIANS.

During the last week of October Illinois was visited by an official of the United States Bureau of the Census, the object of his visit being to examine into the completeness of birth and death registration under the new law and to determine if Illinois is to be admitted to the registration area of the nation. Examinations of the tabulations of returns by counties was made and a careful check-up of delinquent areas was carried out.

The federal examiner found the records sufficiently encouraging to warrant him in making the statement that he would return to Illinois in January and that, at that time, he hoped the returns of births and deaths would be sufficiently complete—at least 90 per cent of all births and deaths—to permit the admission of the state to the registration area.

It now rests entirely with the physicians and the undertakers of the state to determine whether Illinois shall become a registration state or whether it shall continue to bear the stigma of remaining a non-registration state. The present birth and death law is a good one, and contains every essential feature needed for complete vital statistics. Neither this law nor any other birth and death law is self-operative.

The records examined by the federal official show that a number of physicians are delinquent in reports of both births and deaths, and it is to these physicians that the urgent request is made to make out and file all unreported births and deaths at once. A reasonable time will be allowed for compliance with this request, after which persistent violators of the law will be vigorously prosecuted. If Illinois is denied admission to the registration area, the blame will rest upon those physicians and undertakers who fail to recognize their duties to the public and to their professions.

\* \* \*

The admission of Illinois to the registration area will remove a stigma which the state has long borne in the eyes of her sister states. This will not only be advantageous to the people as a whole, but will mean much to the medical profession, which is now looked upon by medical registration officials of other states as not sufficiently law-abiding to discharge simple duties imposed upon them by the birth and death registration law. Until Illinois becomes a registration state there can be little hope of extending reciprocal relations in medical licensure to states of the better class. None of the better states are willing to accept members of a profession so neglectful of simple duties.

At the coming session of the General Assembly legislation which is greatly desired by the medical profession will be sought. Among other measures will be an amendment to the Medical Practice Act, extending the privilege of reciprocity in medical licensure to the older practitioners of the state—to those licensed prior to July 1, 1899. We must go before the legislature with clean hands if we hope for success. Our hands will be anything but clean if we must acknowledge failure on the part of the profession of the state to observe the provisions of the birth and death registration law, which was primarily designed for the protection of the physicians' patrons and upon which must rest the intelligent public health work of Illinois.

Physicians who wish to see Illinois a registration state; who care to have the privilege of licensure reciprocity extended to all physicians, and who desire to assist in the extension of the reciprocity agreement to embrace a larger number of states, can contribute a great deal by seeing that all births and deaths which have occurred since January 1, 1916, and which



have not yet been recorded, be reported to the local registrars of the various communities immediately.

POLIOMYELITIS IN ILLINOIS.

A summary of the prevalence of acute anterior poliomyelitis in Illinois up to this time may be given as follows:

Cases reported July 1-October 28, 1916.....	875
Found not to be poliomyelitis.....	92
Cases of true poliomyelitis.....	793
Number of deaths from poliomyelitis.....	97
Death rate (percentage of cases reported).....	10.97
Cases still under quarantine, October 28.....	90

During the last ten days of October there was another flare-up of cases of infantile paralysis in and about the city of Decatur. There were three cases in the city, with two deaths and three cases in Decatur township, with one death.

The striking increase in the proportion of deaths to the number of reported cases toward the close of October indicates one of two things: That the cases are not being reported and are being concealed, or that the disease has taken on a greater degree of virulence. The death rate in and about Decatur—50 per cent of the cases reported—is a rate more than 100 per cent higher than that noted in New York City during the summer.

For the benefit of health officers or physicians who labor under the impression that they are rendering their communities a benefit by concealing cases of infantile paralysis, the experience of a Wisconsin health officer may be related. .

This health officer, with the approval of local physicians, concluded to conceal cases "for the good of the community," announcing the illness of five children to be due to some common ailment, although recognized as poliomyelitis. A sixth child became ill and several citizens became suspicious. They sent for the state health officer, who diagnosed the cases as infantile paralysis. An indignation meeting of citizens was held. The local health officer was driven out of town and the physicians who were a party to the concealment of cases were prosecuted. The business interest of the town suffered far greater losses after the discovery and the great notoriety of the nature of the case than if the cases had been reported and properly handled as they developed.

LOAN LIBRARY FOR HEALTH OFFICERS.

Plans are under way for the establishment of a loan library for health officers by the State Board of Health. The latest books on hygiene and sanitation will be found in this library, and will be sent at the request of the health official. Library cards and all details of the plan may be obtained on application to the secretary of the State Board of Health at Springfield.

T. B. NOTES.

Tuberculin is not a routine remedy, but one to be used in selected cases only, and with the utmost caution. Used properly it is the one best medical aid we have; used improperly it is the worst.

The onset of "idiopathic" pleurisy calls for a careful examination for a tubercular focus in the lungs.

Many obscure, indefinite findings and symptoms might be cleared up with a subcutaneous tuberculin test.

Rest is successful in the treatment of tuberculosis because, first, it lessens circulation and hence toxin absorption; second, it lessens oxidation and lowers temperature and so decreases tissue waste; third, it puts the diseased lung at rest; fourth, it rests the heart; fifth, it lessens cough and expectoration, probably because quiet decreases physical and pathological activity in the diseased foci; sixth, it encourages weight gaining; seventh, if properly managed, it helps to put the mind at rest.—Minor, *Medical Record*.

The temperature is the first and best guide for the use of exercise in tuberculosis.

A simple method of concentrating tubercle bacilli in sputum is: place 5 c. c. sputum in a 15 c. c. centrifuge tube, add 5 c. c. of a 10 per cent. sodium chloride solution and shake in a shaking machine, or by hand if none available, until it is a thin homogenous fluid as free from clumps as possible. Add 0.5 c. c. of gasoline and repeat shaking process until the gasoline is thoroughly emulsified. Centrifuge at a low rate of speed until the gasoline forms a supernatant liquid, immediately beneath which is a scummy layer in which tubercle bacilli will be found, if present in original specimen.—Krauss and Fleming, *Journal of Laboratory and Clinical Medicine*.

In all methods of treatment remember you are treating the consumptive and not consumption.

Climate is only an aid; it, in itself, never cured tuberculosis.

Fever is one of the first signs of tuberculosis in infants.

THE MICROSCOPICAL EXAMINATION OF  
FECES AND ITS CLINICAL  
SIGNIFICANCE.

(Continued from page 363)

from 20 to 47 per cent. of cases, the scrapings from the root of the tooth should be examined at the dentist's chair to determine their presence if they exist.

9. Parasites or their ova are found—the most common being the ova of the pin or thread worm, so often found in both adults and children. The eggs are colorless, oval, slightly flattened on one side, and filled with an embryo that can be seen with low power or high dry.

The ova of the *Ascaris lumbricoides*, the round

(Continued on page 371)

## Auto Sparks and Kicks

### LUBRICATION.

#### CARBON TROUBLE.

J. G. C.: I have a small 1911 touring car which has given me trouble by excessive carbonizing in the forward cylinder. The carbon collects under the valves, prevents perfect seating and causes a consequent reduction in power in that cylinder. Cleaning with kerosene does not seem to help any, but grinding the valves of this cylinder improves matters for a while. The other cylinders do not seem to give trouble to the sene does not seem to help any, but grinding the valves tained by the splash system, the oil being fed to the crank case compartments by a small pump.

From the fact that it is only the one cylinder that gives you trouble, it is quite evident that this cylinder alone is receiving an excessive amount of lubricant. If there is no means of regulating the supply of oil to the individual cylinders, I would suggest that you grind or cut down the ridge or compartment that keeps the oil within its well under the forward crank. This will reduce the depth of the oil into which the forward connecting rod "splashes" and will prevent so great an amount from reaching the piston and cylinder. However, it would seem that the oil that you use is not of a very good quality, for otherwise there would be no carbon, or what there was would be in the form of a dry powder and would be blown out by the exhaust. I would advise you to confer with a reliable repair man or with the factory in regard to the brand of oil you are at present using.

#### AN OIL DANGER SIGNAL.

P. D. O.: Is there some device on the market that will automatically warn the driver when his lubricating system fails to operate properly?

The manufacturers of a foreign car have evolved a device by means of which the ignition of the motor is automatically interrupted whenever the oil level in the lubricator falls below a certain level. It is, therefore, impossible to operate the car without sufficient lubricant, and much damage that would otherwise be caused by a careless driver is thus prevented. This device is exceedingly simple and consists, in its essentials, of a small tube containing a float, the former being connected with the main oil reservoir. When this float falls below a certain point, due to the low level of the oil in the tank, a connection

is formed which short-circuits the magneto, and thus stops the motor without damage to the ignition system.

#### ADVISABILITY OF DRAINING CRANK CASE.

P. S. C.: My car employs the circulating oiling system. Should the old oil be drained out and the reservoir cleaned, or is it only necessary to renew the oil supply as it is exhausted?

With the circulating lubricating systems in popular use, the same oil is used over and over again. While much of this may eventually be burned in the cylinders, it is probable that the lubricant will become "worn" before the reservoir is emptied. Consequently the level of the oil in the reservoir should not always be taken as the criterion by which to judge the condition of the lubricating system. Although a strainer is used to free the oil of all foreign matter as the lubricant starts on its return trip, it is the experience of many designers that the oil, if used too long, gradually becomes filled with minute particles of iron filings worn from the rings, piston, cylinder walls and bearings. If oil is used in this condition, the metal filings will act as an abrasive and will wear the very surfaces that the lubricant is supposed to protect. It is, therefore, advisable to replace the old oil with fresh lubricant several times throughout the season. If care is taken in this direction, the motor will give excellent service with this system of lubrication, and the wear of the moving parts will be reduced to a minimum.

#### HOW TO TELL THE BETTER OIL.

T. L. O.: Can I test the comparative value of two kinds of oil?

Another test, in addition to those already given in this department, consists of placing a piece of blotting paper on the hot cylinder head, or other heated surface, and dropping a small quantity of the different kinds of oil to be tested on it. By observing the comparative time that is required by the different drops to spread and dry up, you can obtain a good idea of the quality of the oil. As a rule, the best oil will be the last to dry.

#### LUBRICATING THE TIMER.

O. F. P.: I have driven my car 1,000 miles and have not as yet lubricated the brushes in the timer. I understand that it is advisable to do this, and I would like to know the best grade of oil to use.

Pure castor oil is said to be well adapted for this purpose. Before it is applied, however, it would be well to clean out the old oil with gasoline.



## THE MICROSCOPICAL EXAMINATION OF FECES AND ITS CLINICAL SIGNIFICANCE.\*

(Continued from page 369)

worm, has a double shell, outer one brown and very rough, like cobblestones, the inner one, hyaline, with granular contents, which resists freezing and drying and can be kept in the laboratory for from two to four years.

Infection comes from ingestion of the ova, and develops in about three weeks.

The *Angylostoma duodenalis*, or hook worm, so common in the southern states, finds a host in our northern patients more frequently than we are aware of. Discovery of ova in the stools is the only positive method of diagnosis, and they exist as long as the patient entertains the worm. It is estimated that sometimes a million eggs a day are discharged by the patient. I have found as high as 15 to 20 eggs in a single slide from one drop of feces. The ova are egg-shaped, brownish shell and rather smooth. The worm is never found alive in the stools. They attach themselves to the mucosa of the duodenum and cecum by means of a pair of hooks, upper and lower. The hooks, when fastened, puncture the blood vessels and the mouth between them sucks the blood, producing a grave form of anemia with colic, diarrhea, weakness and dyspnea, until a few 30 grain doses of thymol followed by Epsom salts destroys them. Sometimes the treatment has to be repeated once a week until there are no eggs found in the stool. High leucocyte count of from 15 to 25,000 is frequent and eosinophilia is sometimes greatly increased—the color index is also lower. Don't administer castor oil or alcohol with purge after thymol, as it makes a poisonous compound. Oil of chenopodium is recommended in 15 grain doses for this and round worms as well, to be repeated in two hours and followed by purge.

The *Strongyloides intestinalis* and *stercoralis* is a very common affection in the south, and is often encountered in the north. It produces the Cochin China diarrhea, so-called. The embryo is about the same size as that of the hook worm, with the difference that they are hatched in the body, pass out, develop and deposit their ova in the stool. Diagnosis is made by finding the living worm in the stool.

More than ever before, intestinal parasites are recognized as playing an important role in in-

testinal diseases, and Prof. Overlander of Harvard, who was the first in this country to give a special course upon the subject, finds his classes increasing in numbers every year, as physicians are coming to recognize their value in the successful treatment of a class of cases hitherto not understood, and for which there was no relief.

Time will forbid further enumeration of the visible objects of interest to be found by you with a microscope, objects of scientific interest to the physician and of practical importance to the patient's welfare.

The microscopical examination of feces is not attended with anything revolting to the olfactory senses when formaline is used.

The discovery of evidence of indigestion and faulty absorption of either of these important elements of food, meat, starches or fats, is quickly and easily made and furnishes us with at least a suggestion of treatment—namely, the withdrawal of the article that is burdening the digestive function. Allow the mechanism to rest if overworked, and ascertain by other means at our disposal the source or seat of existing disease. The primary examination of feces for the general practitioner is practical, and the discovery of undigested elements of foods leads to further inquiry as to its cause and treatment.

---

## Society Proceedings

---

### ADAMS COUNTY

The October meeting of the Adams County Medical Society was held October 9, at 8:30 p. m. In the absence of the president, Dr. A. M. Austin acted as temporary chairman. Twenty members and guests were present.

Dr. C. D. Center, councillor for our district, brought up a matter of grave importance to the members. After much discussion the same was referred to a committee consisting of Drs. Christie, Koch and Reticker. Chairman Christie made his report and the matter was referred to the medico legal committee.

The transfer card of Dr. F. O. Morgan was received and turned over to the Board of Censors.

Dr. C. W. East of Galesburg, district health officer, read a complete, practical and interesting paper on "The Clinical Diagnosis of Acute Anterior Poliomyelitis." After Dr. East had answered numerous questions and his paper had been thoroughly discussed, Dr. Koch moved that a rising vote of thanks be given him. The same seconded and carried.

Adjourned to meet the second Monday in November.

ELIZABETH B. BALL, Secretary.

## COOK COUNTY CHICAGO MEDICAL SOCIETY.

*Regular Meeting, October 4, 1916.*

1. Surgical Considerations of Splenectomy and Results. Wm. J. Mayo, Rochester, Minn. Discussion by A. J. Ochsner, Arthur Dean Bevan, Allen B. Kanavel, Nelson M. Percy, Maximilian Herzog and Joseph L. Miller.

Memorial night in honor of the late John B. Murphy, October 11, 1916. Program: Reading of messages from prominent physicians and surgeons of the United States.

Following is a list of the speakers of the evening: Geo. A. Crile, Cleveland Ohio; L. L. McArthur, E. Wyllys Andrews, D. A. K. Steele, Arthur Dean Bevan, Wm. E. Quine, Chas. A. L. Reed, Cincinnati, Ohio; Frank Billings, A. J. Ochsner, Jacob Frank, Wm. A. Evans.

*Regular Meeting, October 18, 1916.*

1. Concerning the Modern Aspects of the Cancer Problem (Demonstration of patient). Gustav Kolischer. Discussion, Emil Ries.

2. Pathological Studies of Bone and Joint Tuberculosis. D. B. Phemister.

3. Prevention of Disability following Fractures of Os calcis. C. R. G. Forrester. Discussion by John L. Porter, Hugh McKenna, Wm. Hessert, Chas. M. Jacobs, Frederic Test and A. B. Rankin.

*Regular Meeting, October 25, 1916.*

1. Prevention of Disability following Fractures of Os calcis. C. R. G. Forrester.

2. Osmosis and Dialysis in Its Relation to Medicine and Surgery. Ed. H. Ochsner.

3. Simple Glaucoma of the Atypical Type. Harry S. Gradle. Discussion, George Suker.

4. Conservative Nasal Surgery. Oliver Tydings. Discussion, John A. Cavanaugh.

*Regular Meeting, November 1, 1916.*

1. Examination of the Discharge in Mastoid Disease. Albert H. Andrews. Discussion general.

2. The Percy Cancer Treatment in Nose, Mouth and Throat. Joseph C. Beck. Discussion, James F. Percy, Galesburg, Ill.

3. The Diagnosis of Early Pulmonary Tuberculosis. George Halperin. Discussion, John Ritter and Willard Dicker.

### ENGLEWOOD BRANCH

The opening meeting of the Englewood Branch was held Tuesday evening, October 2, 1916. The meeting was called to order promptly at nine o'clock by the president, Dr. W. H. Buhlig.

Dr. G. J. Hagens, our outgoing president, was presented with a leather bound copy of Vol. 8 of the *News Letter*, representing the work done by the branch during his term of office.

The following program was then presented:

Acute Anterior Poliomyelitis. Medical aspect, Dr. E. J. O'Neill; neurological aspect, Dr. H. G. Hardt.

Dr. O'Neill gave us a very interesting paper, bringing the subject right up to date.

Dr. Hardt considered the subject from the neurological aspect, showing many stereoscopic slides, illustrating various deformities before and after operations.

The discussion was opened by Dr. Julius H. Hess, who gave us some interesting data on the New York epidemic. His classification takes in three types, namely, the abortive, the cerebral and the bulbar-spinal. He spoke at length on the diagnosis, especially in the pre-paralytic stage and gave us many valuable points. The serum treatment, he stated, had not been found encouraging at the Cook County hospital.

Dr. H. B. Thomas discussed the subject from the orthopedic side, giving us valuable pointers on the treatment of the disease during the acute and later stages. He stated that fully thirty per cent of the operative cases could have been avoided had careful treatment been instituted during the acute sickness. During the acute stage he recommends absolute quiet. Protection first and second position support the weak side. Massage after tenderness is gone, three to four days, later passive motion, later active motion and muscle training with exercise after two or three weeks. Operation should never be done until after two years.

Dr. Schick of the Cook County hospital gave us interesting data on the cases under his care (as intern), basing his remarks on personal observation and study of the cases.

Dr. E. K. Armstrong gave us a most interesting talk, especially regarding the Chicago cases, all of which he had the opportunity to observe and study. His words were based on close personal observation. His discourse was greatly appreciated.

The attendance was 88.

ARTHUR G. BOSLER, Secretary.

### CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

The regular monthly meeting of the Chicago Laryngological and Otological Society was held April 18, 1916, with the president, Dr. Otis H. Maclay, in the chair.

#### CASE OF HIGH DEGREE OF RETRACTION OF THE POSTERIOR HALF OF THE DRUM- HEAD AS A CONSEQUENCE OF OLD ADENOIDS.

Dr. J. Holinger demonstrated a boy, M. H., 16 years old, who complained of hard hearing, dizziness and noises in both ears for the last two years. Neither ear ever discharged. Large quantities of ear-wax and epidermoidal scales were removed from both ears, especially the right, where they were anchored in the region of the posterior upper quadrant of the drum-membrane. Both membranes were considerably retracted. Hearing distance in right ear, one meter from whisper; left, three meters. In catheterization the air entered with a soft sound in the right ear, and with a harsh (normal) sound in the left ear, after which the aspect of the right drum membrane was as fol-



lows: Anterior half normal; posterior half shows highest degree of retraction. Membrana flaccida shows reflex of a cover. Handle of hammer in normal position, but posterior half of membrane tightly adherent to inner wall of middle ear. Short process quite prominent, and a high posterior fold extends from it, sickle-shaped, to the posterior margin. Depressing the speculum downward and forward, one is able to look underneath this fold into a bag-shaped excavation of the membrane, extending into the aditus ad antrum. On the inner wall of this bag the long process of the incus, the stapes, and, extending horizontally backwards, the tendon of the stapedius muscle are clearly visible. The atrophic adherent part of the membrane is drawn tightly, like a glove over the hand, over all these parts. The left membrane is normal. Considerable masses of adenoids and the tonsils were removed. Hearing improved in both ears, in the right to four meters, in the left to over seven meters for whisper. Dr. Holinger's explanation of the condition is that there is in the right ear one of the consequences of adenoids. Through absorption of air in the antrum the cells of the mastoid, the membrane, became first retracted, then in the posterior half adherent, and extended bag-shaped into the aditus ad antrum, thus overlapping and later on replacing the normal lining by epidermis. Masses of epidermis gathered in the bag, and there is the beginning of cholesteatoma. The most forcible inflation through the catheter gives subjective relief, but does not change the picture. Had the speaker had a chance to remove the adenoids a year or so ago, normal conditions might have been obtained, as secured in the left ear, but now the boy is a chronic invalid.

#### DISCUSSION.

Dr. George E. Shambaugh asked Dr. Holinger whether he considered the condition of the drum membrane the result of reaction alone, to which Dr. Holinger replied yes. Dr. Shambaugh said his impression, after examination of the case, was that of scar formation in the upper posterior quadrant. The most extreme form of retracted drum membranes encountered in the non-suppurative types of middle ear troubles presents a condition where the handle of the hammer is entirely obscured, drawn up under the posterior fold. In the case demonstrated by Dr. Holinger the manubrium is still visible. The formation of a cholesteatoma in the pocket formed in the upper external margin is the most interesting feature and throws additional light on the method of formation of this clinical condition. It is apparently always due to the accumulation of desquamated epithelium and develops, as a result, from epithelium which has invaded the middle ear cavities. The speaker has seen a large cholesteatomatous mass filling the inner third of the external meatus, where there has been no perforation into the middle ear. Dr. Holinger's case resembles rather closely cases of cholesteatoma developing in the attic, the origin of which has been cleared up by the work of Bezold. The membrana flaccida is very often sucked in against the neck of the hammer, to which it becomes adherent. It becomes very easily torn and in this way forms a portal for entrance of epithelium into the attic. This eventually results in a cholesteatomatous formation.

Dr. Norval H. Pierce thought the pathology in the case presented had to do with the very keynote of the pathology of the middle ear. His understanding of the process of formation of cholesteatoma in this type of cases, as described by Bezold, is that the Eustachian tube becomes closed. He

asked Dr. Holinger if the tube was permeable in the case demonstrated, to which Dr. Holinger replied yes. Dr. Pierce then asked if he could see the location of the adhesions, to which Dr. Holinger replied that the anterior part of the membrane is covered, but not the posterior. Dr. Pierce said Politzer claims in all these cases that there is an absolute shutting off of ventilation from the part of the ear affected—not necessarily in the Eustachian tube, but somewhere in the cavum tympani. The theory is that the oxygen is absorbed and carbonic acid given off by the mucous membrane in the cavum. It is well known that carbonic acid is a great stimulus to muscle fiber and probably in these cases this surplus carbonic acid contributes to the abnormal contraction of the tensor tympani, adding to the retraction of the tympanic membrane. Two entirely dissimilar otoscopic pictures are presented by these cases: One in which the manubrium mallei is in an approximately normal position as regards its lateral relations, the other in which the manubrium is greatly foreshortened or scarcely visible in advanced cases, it having been retracted inwards and upwards toward the Eustachian tube orifice. Cholesteatoma are more likely to form in the former class of cases. Atmospheric pressure remains the same in the external auditory canal—sixteen pounds to the square inch, which produces pressure atrophy. This pressure atrophy has its greatest effect on the least resistant portion of the membrane—Shrapnell's membrane. Before cholesteatoma can occur in these cases we must have a perforation, which perforation occurs in Shrapnell's membrane as an end result of pressure atrophy. After perforation occurs the epithelium from the external auditory canal and the tympanic membrane crosses through the perforation and into the aditus and epitympanic space. These are the cases of adhesion in these early stages that recently have attracted attention—in New York especially. Considerable benefit to hearing has been claimed from mobilizing the handle of the malleus from the promontory. An incision is made below the long handle of the malleus and with a ring encircling the malleus the adhesions are broken up. Dr. Pierce's experience has led him to believe that it is impossible to permanently mobilize these cases, and in cases of threatened cholesteatomatous formation it is a question in his mind whether ossiculectomy is not advisable. He has been able to remove the cholesteatoma in a couple of instances by injecting salt solution under the periosteum of the external auditory canal.

Dr. Holinger, in closing the discussion, said that the difference between the condition present in his case and that reported by Dr. Shambaugh is in the fibers of the membrane extending downward and forward from the end of the handle of the mallet. If these fibers are strong enough to withstand the traction of the tensor tympani muscle, the handle of the mallet will remain in place; if not, or if there is a perforation of the light cone, the handle will move upward and backward. In his case these fibers saved the anterior half of the drumhead. The posterior half became retracted, atrophic, adherent and formed what Bezold called a "cholesteatoma of the external meatus."

#### MASSAGE OF THE EUSTACHIAN TUBE.

Dr. Alfred Lewy believes, after a limited experience with it, that the method of massage of the Eustachian tube, as advocated by Mink, of Utrecht, Holland, will prove a valuable addition to our therapeutic resources, but realizes that it is useful only in properly selected cases, as an addition to, not a substitute for, other well-established procedures. The technic is easily carried out by anyone familiar with the use of the Eustachian catheter. A nasal applicator is curved to about the same degree as an Eustachian catheter, but a shorter segment used. A number of different lengths of curves are necessary to fit septal deviations and various anatomic conditions. Mink uses a wire looped back on itself in opposite directions at either end, and

curved to fit individual cases. One end serves as handle, the other as a cotton carrier. The cotton is best folded back on itself and wound around the carrier so as to form a thick ball rather than a brush, to avoid trauma. After cocainizing the region of the mouth of the tube, the cotton-wound applicator is passed back to the posterior wall of the pharynx, swept upward in the fossa of Rosenmueller, brought forward over the mouth of the tube and immediately downward and back under the mouth of the tube. This motion is repeated about twenty times, or as often as the operator's judgment indicates. Mink calls this the "greater stroke." Another, the "lip stroke," is as follows: The applicator is rotated upward and backward into the mouth of the tube, as is done in passing the catheter directly in. This dilates the mouth and exercises the muscular and other attachments. Still another movement is the "small stroke," which is reserved for cases in which he is unable for any reason to circle the mouth of the tube. This stroke is up and down in front of the tube. The cotton should be in fairly firm contact with the tissues throughout the movements.

Mink does not describe the use of medicaments in connection with the massage, but in the cases so treated Dr. Lewy has used argyrol, 20 per cent; iodoglycerine,  $\frac{1}{2}$  per cent, and ichthyol, 10 to 20 per cent.

Dr. Lewy has used this method in 6 cases of acute suppurative otitis media, massaging with argyrol when the acute symptoms had subsided and they were in the declining or stationary stage. He believes these cases were shortened in their course, and hearing restored more rapidly than with simple inflation and topical applications, as heretofore used. Three cases of simple tubal catarrh of moderate degree yielded to a very few treatments. So far he has had no special results from this treatment in tinnitus that failed to yield to other treatment, but feels a little encouraged in some cases. The treatment seems especially useful to remove the results of tubal inflammation in cases of not too long standing.

#### DISCUSSION.

Dr. J. Holinger referred to the epidemic of influenza of last winter, which was combined in a great many cases with middle ear suppuration and affection of the Eustachian tubes, in many of which there was more or less retraction of the drumhead and very distressing subjective noises. He had not had the courage thus far to massage the tubes directly. The question in his mind has always been, Is it probable that we accomplish more in these cases by an active treatment than by waiting? Therefore, he welcomed the paper, because it showed that with the careful technic described Dr. Lewy did not see very much result and the other members need not expect much more from their endeavors. The work that has been done so far with the naso-pharyngoscope in these cases is very promising of further success.

Dr. Joseph C. Beck, since examining the Eustachian tube with the naso-pharyngoscope, has seen a recess behind the posterior lip of the Eustachian tube that was never visible to him before, by mirror examination. After acute or chronic inflammation of the naso-pharynx there is an infiltration in the muscles of the tube, so that the normal action does not take place, and then by this massage action, sweeping around these three different strokes, normal action may be brought

about. Too little attention is paid to the Eustachian tube, particularly to the muscular apparatus of the tube. He thinks the result oftentimes obtained by the removal of the tonsils is due to the change produced on that little muscle which comes from the palate that goes around the Eustachian tube opening. Massage improves the chronic cases temporarily, but when left alone the condition returns. The result is on the muscle apparatus more than anything else.

Dr. H. Kahn thought the method of massage described by the essayist was novel. Ten or twelve years ago Urbantschitsch massaged the Eustachian tube by passing an Eustachian catheter through which a celluloid bougie was inserted, and then with a backward and forward movement of the bougie five, ten or fifteen times, as desired, hyperemia was established and adhesions were also broken up. Urbantschitsch also practiced a backward and forward massage of the nose, with a mechanical vibrator, which reached back around the end of the tube through the length of the lower meatus of the nose. This vibrator was armed with cotton and an oleaginous substance and rubbed the lower end of the turbinate. The speaker could not see that the method does anything more than establish a hyperemia or make a post-nasal application in a definite way.

Dr. Robert Sonnenschein, in closing the discussion for Dr. Lewy, said that pneumo-massage may be applied to the Eustachian tube by passing a catheter and connecting the tip of the massage apparatus to it. It is difficult to say whether it is the induced hyperemia or the exercise of the muscles which aids the ears.

#### DIFFICULTIES AND COMPLICATIONS OF SPHENO-PALATINE GANGLION INJECTION.

Dr. Harry L. Pollock said there are three general indications for the injection of the ganglion: (1) True sphenopalatine syndrome (Sluder), in which there is pain radiating to any or all parts supplied by the ganglion. Usual location of pain is over root of nose, in and about eye, over frontal region, in the ear, back of mastoid and radiating down into the neck and arms. (2) Hyperesthetic rhinitis. (3) Post-operative neuralgia, secondary to operations upon the accessory sinuses of the nose.

**Technic of Operation:** With a straight Sluder needle, transfix posterior end of middle turbinal, press upwards, outwards and backwards until needle is felt entering the pterygo-maxillary fossa, where the ganglion is located; inject eight to ten minims of 2 per cent carbolic acid in alcohol.

**Difficulties of Injection:** (1) Absence of normal landmarks by having turbinate removed. (2) A deflected septum, split anterior cartilage, spurs and ridges. (3) Thickness of superior maxillary bone, which forms anterior boundary of fossa in which ganglion lies.

**Complications:** (1) Severe hemorrhage, either primary or secondary. (2) Paresis of external rectus by alcohol escaping into orbital cavity and attacking abducens nerve.

**Conclusions:** The injection of the sphenopalatine ganglion is usually carried out without any difficulties. The difficulties are in a majority of the cases overcome if one is familiar with the regional anatomy. The complications are not numerous nor severe, but one must be watchful and bear in mind that they occur, and be prepared to meet the emergencies as they arise.



## DISCUSSION.

Dr. Robert Sonnenschein reported briefly a case in which there evidently was a dehiscence of bone covering the ganglion. The patient, a woman of thirty years, for years had the typical syndrome of Sluder. The upper teeth had been removed on the theory that they caused the neuralgic pain. Touching the region below and back of the middle turbinate caused a severe paroxysm of pain, while application of cocaine relieved the latter. Applications of dilute formalin were then made (beginning with 0.1 per cent) for several weeks, with practical disappearance of the pains for two years. They then recurred to a light degree, but were again dispelled by a few formalin applications.

Dr. H. Kahn was particularly interested in the mechanism of cocaine when applied in this region—the posterior end of the middle turbinate—and about the region of this ganglion. Why does the cocaine act? There must be some intimate connection of the outside with the inside.

Dr. Beck said results had been obtained in other cases, but they were best where the cocaine was used.

Dr. Kahn said he would like to know the mode of action of the drug.

Dr. Norval H. Pierce reported a case of a man, a highly nervous and imaginative individual, who suffered from ethmoid cases and the arm pain, which, however, was not neurotic in character. Dr. Pierce told this man that he had recently seen such cases treated by this method of injection and said that if he would consent to the experiment he would be glad to try it. The man readily agreed. Dr. Pierce was quite sure he did not get beyond the periosteum in this case, but the man said he was greatly improved, insisted on another injection, which was done in the same manner, in the same dense bone, after which the man said he was practically all right. Dr. Pierce did not feel that he could ascribe the effect to the injection of the ganglion. He wished to speak of the copious initial hemorrhage.

All these cases of vague pain in the head and strange abnormalities of vision are almost always connected with instability of the nervous system, which, on this account, are probably often benefited by any extraordinary method of operating. Great care should be used before drawing fixed conclusions in these cases.

Dr. Louis Ostrom, of Rock Island, had seen Sluder work, as well as a few others, and had noticed what he considers a neglect of detail of technic that is not permissible in other work, namely, leaving air in the needle to an amount equaling seven drops of water. He has seen trouble following sphenopalatine injections and has felt that it was due entirely to this neglect.

Sluder has his patient in the upright position. The speaker thinks it is not an easy matter to make an injection with a movable head and know just exactly the force you are applying. If the patient is in the recumbent position you have absolutely physical control of the situation. Dr. Ostrom also believes more restriction should be placed on just exactly the location of the injection and what the posterior end of the middle turbinate means. There may be a very large tip of the posterior end.

Dr. Joseph C. Beck thought the most important part is the effect of the alcohol on nerve tissue and neighboring nerves. The sphenoidal fissure and pterygo-maxillary fossa are in close proximity and so is the sphenoid sinus, to a number of nerves, particularly the optic. These injections are very frequently made without any regard to vision and the question remains to be answered as to what effect alcohol has on the various nerves. Dr. Beck could say frankly that the results from these injections are uniformly poor. They are not lasting. Many of them are failures, especially those done for vague pains in the head. Quite a few have been benefited, but he has not seen any striking results, such as he has heard reported by others. The condition is apt to recur, because you do not get a destruction, as in the case of osmic acid. There is only temporary destruction of the neurons or part of them, which is followed by reformation of the structures.

The question of hemorrhage is important. Care must be taken not to injure that branch of the posterior pharyngeal that goes down in close proximity to the sphenopalatine ganglion.

Dr. J. Holinger has injected the ganglion in three cases and could never observe much benefit.

Dr. Pollock, in closing the discussion, said he had had some good results from this method, but, uniformly, the results have not been so good as he would like them to be. In answer to Dr. Kahn's question as to why the application of cocaine in this region results in temporary cure of the patient, or relief of symptoms, the cocaine has a very strong penetrating effect on mucous membrane and the sphenopalatine is in that neighborhood. He tries to put the cocaine up against the sphenopalatine foramen. There is an opening in the bone in the posterior wall and there is nothing but a little mucous membrane to penetrate.

Dr. Pollock did not wish to be understood as saying that when a patient comes with these pains the sphenopalatine ganglion is injected immediately. That was not the idea of the paper. The injection is a sort of a measure of last resort.

Regarding Dr. Ostrom's remark about the head being movable Dr. Pollock always has a nurse to support the head. In very difficult cases he gets a hammerlock on the patient. A great deal of force has to be used in most of these cases, because the bone is sometimes so thick that even with a hammer you cannot drive the long needle into the bone. He does not think there is any danger of using too much pressure, because you can feel that by your pressure sense. It is just the same feeling as in penetrating an antrum.

Regarding Dr. Beck's reference to the effect of alcohol injection upon the different nerves the speaker has had no experience in this line.

As to results, in a large number of cases relief was experienced. All cases of hyperesthetic rhinitis got relief and a large percentage of the neuralgias were benefited.

## CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

Regular meeting held May 22, 1916, with the president, Dr. Otis H. Maclay, in the chair.

## CASE OF INCREASING LOSS OF HEARING, LEFT-SIDED FACIAL PARALYSIS, HOARSENESS, TUMOR IN RIGHT PAROTID REGION, HEMIATROPHY AND PARESIS OF LEFT SIDE OF TONGUE.

Dr. Norval H. Pierce presented a man, aged 61, who consulted him because of difficulty in hearing on left side. Tuning-fork tests: Left—Weber-Schwabach, 25 seconds, lateralized to the left ear; Rinne, 10 seconds osseous conduction, and 27 seconds aerial conduction. Right—15 seconds osseous conduction, and 45 seconds aerial conduction. Low tone limit on both sides,  $G^2$  (24 vibrations a second). High tone limit on both sides decreased, but more so on the left side. Whisper heard on left side at four to twelve inches, including high and low-pitched words. Right, ten inches to three feet. The same type of disease is present, therefore, in both ears, a type that has been named by Bezold as dysacusis—both the middle and internal ears being involved. There is also a facial paralysis on the left side, and a tumor in the right parotid region, which tumor was immovable from the deeper structures. Only the skin was movable. The tumor was hard and somewhat nodular. The tongue

showed a hemiatrophy on the left side, and in projection was directed to the left side. Hoarseness was also present, and examination revealed an adductor paralysis of the left vocal cord.

The speaker's analysis of the case is that the tumor is probably a so-called mixed tumor of the parotid, which is a very curious kind of tumor, affecting the parotid and the submaxillary glands, most frequently the parotid—about 71 per cent parotid, and the rest submaxillary. In the early stages these tumors are movable within the parotid tissues; are somewhat nodular and covered with well-pronounced limiting membrane or capsule, from which capsule strands of connective tissue are thrown into the tumor tissue, forming lobules. Their microscopical character has been the source of a good deal of controversy, some claiming that they are derived from connective tissue elements, others that they are derived from the endothelium or epithelium elements. Inasmuch as they contain fat, cartilage and sometimes bone, the speaker believes that Volkmann's theory that they are of embryological origin is correct. Their peculiar histology is that the tumor proper is composed of cylinders formed in epithelial or endothelial cells, columnar in character. The embryological displacement theory is substantiated in the case presented by the fact that some time ago the man had a tumor removed from his neck, which the surgeon told him contained hair—in other words, a dermoid, which is derived from a embryonal matrix.

The facial paralysis is due to involvement of the facial nerve on that side by the tumor. The hypoglossal involvement is due also to involvement by the tumor as the nerve passes down the retromaxillary fossa. The tumor has nothing whatever to do with the nerve of hearing or the hearing apparatus other than that it is encroaching upon the external auditory canal and closing it. This opinion is further strengthened by the fact that the same type of disease is present on both sides.

The disease of the larynx is an entirely different affair, and is probably due to some trouble within the thorax, although a somewhat superficial examination did not disclose anything wrong in the way of a large aneurysm.

Wassermann was negative in the case.

In the speaker's opinion, the treatment of the tumor is of little value. It is probably undergoing a malignant change, as such tumors are very liable to do. When such change takes place, there is very little to be done in a surgical way. X-rays could be tried. The type of hardness of hearing present is uninfluenced by treatment.

#### CASE OF PREVIOUSLY EXISTING ETHMOID LABYRINTH SUPPURATION WITH POLYPOID TISSUE, WITH PROBABLE INVASION OF THE ORBIT BY A MALIGNANT PROCESS.

The patient is 56 years of age. He was held up and struck on the head  $5\frac{1}{2}$  months ago. He has a dis-

charge from the left side of the nose, with symptoms of nasal stoppage. After the trauma a neuralgia developed in the upper and lower branches of the fifth nerve, which was especially marked over the frontal division of the nerve. Ten weeks after the injury he had an operation on the supraorbital nerve, it being dissected out from the supraorbital foramen. For a time following this operation he was better. Then the pain recurred, and at present is as bad as ever. Double vision has developed gradually; at present he sees double when the object is downward and to the left. Examination of the eyes reveals the fact that the inferior oblique is involved. The eyeball is slightly raised above its fellow. There is an enlargement over the left cheek (malar bone). Examination of the nose reveals polypi, which have been removed several times. Their removal was accompanied by a very profuse hemorrhage.

The question is, what has occurred to this man? He evidently had the ethmoid disease long before the accident. X-rays show a shadow in the region corresponding to the left frontal sinus, left maxillary sinus and left sphenoid. Is it a case of malignant growth beginning after the injury to the skull? Is it an inflammation of the structures of the orbit from the previously existing ethmoid disease, or is it a hemorrhage at the base, which has come on after the injury or at the time of the injury, and is now just becoming organized and causing pressure on the nerves at the base? Examination of the tissue taken from the nose showed nothing malignant.

Dr. Pierce's diagnosis is: Previously existing ethmoid labyrinth suppuration, with polypoid tissue, and a very strong likelihood of an inflammatory or malignant process now invading the orbit. Glaucoma might also be thought of. However, the tension of both eyes is about alike, and the eye grounds are normal. The case should be very carefully weighed before attempting anything in the way of operation. However, whatever is done should be done externally, in Dr. Pierce's opinions.

#### DISCUSSION.

Dr. H. Kahn had seen the second patient about two months ago, at which time he had removed a large number of very large polypi. The hemorrhage was very alarming after the first sitting and he was kept at the hospital. The symptoms apparently improved. At this time double vision was not present. A day or two following the first operation a piece of the middle turbinate was removed anteriorly and the ethmoid opened, which was immediately followed by a great gush of pus. There was also quite a disconcerting hemorrhage following this operation. Then the man was let rest again. From day to day, in the course of a week, Dr. Kahn tried to clean up the ethmoid. Dr. Snyder examined the eyes during this time and the speaker was of the opinion that he made a diagnosis of superior rectus involvement and beginning glaucoma in both eyes, with a cupping of the discs. When the man was under Dr. Kahn's care there was not such a pronounced proptosis as at present. Of one thing Dr. Kahn felt pretty sure, namely, that there was no malignancy reported. So far as he could determine at that time, the whole thing most likely lay within the ethmoid, but what the exact condition is he could not say.



Dr. Robert Sonnenschein said that at the request of Dr. Kahn he had had the privilege of seeing the second patient and also the x-rays. He had simply examined the man's nose, without cocainizing him, and felt that it was a question for further investigation. But, as Dr. Pierce had said, if anything were done in the way of radical procedure, an external operation would probably be the thing desired.

Dr. J. Holinger asked as to the condition of Steno's duct in the first case. He wondered if there was any abnormal discharge or composition of the saliva?

Dr. Pierce said the discharge was no more than normal. It had not been examined chemically.

Dr. Holinger asked as to the condition of the naso-pharynx in the second patient. He thought it would be a favorable case in which to make the examination of the post-nasal space demonstrated in Champaign. If Dr. Kahn could do so he would like to have him tell the society whether there had been any progress of the condition.

Dr. Kahn said there seemed to be more enlargement; at any rate, it seemed to him that there was more proptosis than when he had seen the man before.

Dr. Macley asked as to the condition of the nose at the present time; whether there was any return of the former condition.

Dr. Kahn replied that he had not examined the man for some time.

Dr. Pierce said there was a return of the ordinary mucous polypi.

Dr. Pierce, in closing the discussion, said that all knew that a sarcoma or carcinoma of the ethmoid cells may be accompanied by the ordinary myxomatous growths that are indistinguishable microscopically and macroscopically from the growths that accompany the ordinary purulent inflammation of the ethmoid labyrinth. (Note: August, 1916, on operation, carcinoma involving the ethmoid and orbit was proven microscopically.)

#### PAPILLOMA OF THE RIGHT VOCAL CORD.

Dr. Robert H. Good showed a young girl, aged 17, who had had a papilloma on the right vocal cord, which remained after several operations. The cord was thickened, especially the ventricle band, and the cord itself was reddened. When the patient phonated there was but slight movement of the cord. The patient had been in the Cook County Hospital since last September, and had had a number of operations for removal of the papilloma while there. She came to the speaker three months after the last operation, and had not been able to speak above a whisper for a year. Dr. Good used fulguration and sesquichloride of iron, 10 per cent. He first fulgurated for ten minutes, combined with the sesquichloride of iron, and to his surprise one week later she was able to talk some. He has kept this up, and now she can sing. Dr. Good learned of sesquichloride of iron being used in this way in Edinburgh in Turner's clinic, so thought he would try it, and certainly it has done wonders. The little papilloma has gone and the right vocal cord moves well now.

#### CASE OF DOUBLE DACRYOCYSTITIS.

This patient was a young woman. Only one side had been operated on by Dr. Good, by the Yankauer method, removing the anterior end of the inferior turbinate. First he put in a grooved probe through the lachrymal duct, which he used as a guide, removing the inferior turbinate about a quarter-inch further

back than the probe. Then he chiseled the entire internal bony wall of the ostium away, and then the entire bony wall over the sac. After the bone was all removed, he took a knife and ran along the groove in the lachrymal probe. Since this operation she has not had the least trouble. Dr. Good's reason for not doing the West operation is because Yankauer has brought out the point that frequently it is the bony wall around the duct, down below, that makes pressure upon it, and that if this bony wall is removed, the natural opening is re-established.

Dr. Good also showed a specimen of a little sieve which he had removed from a patient's trachea three days previously. This sieve had been in the trachea for three weeks almost without symptoms until the last week. The peculiar thing about the case was the character of the symptoms produced. The child was ten years old. Her pulse was 150; temperature, 99.5°, and she was gasping for breath. Removal of the foreign body relieved the condition absolutely.

#### DISCUSSION.

Dr. Otto J. Stein asked how many applications of fulguration had been made in the first case and also something about the technic. Dr. Stein had used fulguration quite a few times, but never got any results of value. Yankauer is advising using it in a perfectly dry field and that seems logical to the speaker. It is used mainly under suspension to get the best results. Dr. Stein had used the indirect method.

Dr. C. H. Long's experience with fulguration was negative, probably owing to the brief period of application and the poor insulation, which was rubber tubing.

With regard to the Yankauer operation for dacryocystitis and how it differs from the West operation. The latter has an elaborate technic and has been successful when the Mueller sac operation failed. Reinfection and closing of the nasal openings are the principal objections to the operation of the nasal route for dacryocystitis.

Dr. Otis H. Macley has done the West operation a couple of times. While either the West or Yankauer operation may bring about a result, it seems to him that the one that produces the least traumatism to the nose should be chosen, making a small opening rather than a long incision. The cases he had operated on apparently gave good results. They were both pus sacs.

Dr. Good, in closing the discussion, said he thought he had given seven treatments of fulguration, about ten minutes for each treatment. He was sorry he had used both the sesquichloride of iron and the fulguration, because it left him in the dark as to which did the business. The technic of fulguration is a very ordinary affair. There is a little platinum wire or any wire, with a rubber cuff over the wire, which comes within a fourth of an inch of the tip of the wire. This is fastened on to a handle. The tube is bent and put into a handle, which goes down into the larynx. The patient holds the electrode in the hand. The fulguration handle has no connection at all. In the method Dr. Good uses the electricity is drawn out of the patient and therefore it is not necessary to have the field all dry, as in the Yankauer method.

Dr. Kahn asked if any reaction was noticed following the treatment, to which Dr. Good replied that he did not notice much reaction, perhaps a little less hyperemia.

Dr. Robert Sonnenschein had seen the first patient at the County Hospital. Some of the growth was removed by Drs. Beck and Friedberg, but this was not seen by the speaker. The growth on the right cord was a broad, sessile one and the patient was aphonic. The improvement at present is very great and if fulguration contributed much to the result its action was excellent.

## SPECIMEN OF CARCINOMA OF THE PHARYNX AND ESOPHAGUS, WITH SECONDARY INVOLVEMENT OF THE CERVICAL LYMPH NODES.

Dr. G. M. McBean presented this specimen, supplementary to the remarks he had made at a meeting a couple of months ago, in the discussion of Dr. Norcross' paper on carcinoma of the pharynx. The diagnosis made from post-mortem examination was: Carcinoma of the pharynx and esophagus; secondary carcinoma of the servical lymph nodes; old fibrous pleural adhesions; bilateral localized inhalation broncho-pneumonia.

## THE DIAGNOSIS AND TREATMENT OF SINUS THROMBOSIS OF THE LATERAL SINUS.

Dr. J. Holinger said the diagnosis of thrombophlebitis of the lateral sinus up to a few years ago was based upon the finding of a cord-like swelling of the jugular vein, swollen eyelids and septic attacks, consisting of sudden rises of temperature and chills. The first two were very late symptoms. The septic attack is alone reliable for an *early* diagnosis. On account of the possibility of an early diagnosis, and because of the results of some experiments, the treatment has changed. It is sufficient to lay the sinus bare extensively, in order to avoid all retention of pus in the surroundings of the sinus. The sinus itself can deal with the infection within. Ligation of the jugular vein, puncture, scraping, handling of the sinus, etc., ought to be avoided, on account of possible injury to the intima of the sinus and consequent new formation of thrombi.

### DISCUSSION.

Dr. Norval H. Pierce did not think such a radical view of the matter should pass undiscussed. It seemed to him to mark a distinctly retrograde step in the treatment of sinus thrombosis. It is against the general law of surgery, namely, that where you find pus you should drain. There is no doubt that a great many more sinus thromboses recover without operation than we have any idea of, but once there is a septic thrombus detected within the sinus, whether it is parietal or a floating thrombus, or whether it is an obtrusive thrombus, his opinion is that it should be removed, the same as a septic thrombus in a large vein in any other accessible part of the body. The method described by Dr. Holinger has been tried, but not extensively, so far as Dr. Pierce knew. It does not represent the modern idea of the subject by any means. These investigations on animals count for very little, in Dr. Pierce's opinion, as they are produced on healthy animals, and these thrombi in people, especially in the chronic forms, occur in people more or less reduced in vitality by the whole suppurative process.

Regarding the advisability of ligating the jugular in every case, that would bear a good deal of discussion. Some operators are very radical in the matter, believing all cases should be ligated before opening the lateral sinus. Dr. Pierce does not agree with these men, but believes, however, that there is a distinct indication for ligation of the jugular—not only ligation, but dissection of a given piece of the jugular between the upper and lower ligatures. In this way we can to the best of our ability cut off the original source of the infection, because a thrombus occurs primarily from an infection of the blood vessel walls themselves and the infection spreads beyond the thrombus in the vessel walls.

Dr. Pierce could not see how the condition of endothelium of the intima of the inner wall of the sinus has very much practical bearing on these cases. Whenever a sinus is infected

at all, this is pretty well destroyed. Its usefulness as a protective agent against the spread of the thrombus is at least rendered inactive. That is the main point upon which Dr. Holinger bases his thesis—that in order to prevent a thrombus from forming we should not disturb by our manipulative procedures the inner wall of the sigmoid sinus.

Dr. Pierce's mode of procedure in these cases of sigmoid thrombosis is to get free bleeding from both the upper and lower portion of the sigmoid sinus if possible. If he fails in the lower portion, he does not necessarily proceed immediately, at the same operation, to ligate the jugular, unless the picture has been one of very grave pyemia before. In that case he would immediately proceed to the ligation and resection of the jugular. However, at the time of the first operation, if the leucocyte count is high and there is marked sepsis, the general condition of the patient impressing one with the fact that the patient is very ill or septic infarcts are occurring, he would immediately proceed to ligation of the jugular; but if not of this type, he might wait a day or longer. The best we can do in these cases is to establish in that sinus a non-septic thrombus by whatever means of operating we adopt.

Dr. Pierce would like to know how many cases of septic thrombosis of the sigmoid or lateral sinus Dr. Holinger has seen and treated by the method described and what his percentage of recovery is.

Dr. George W. Boot had operated on fifty-one mastoids since December 1, 1915, of which six had sinus thrombosis. Three of the sinus thrombosis cases died because of delay in operating. Two of the fatal cases had meningitis, one pyemia and endocarditis. Dr. Boot believes that septic sinus thrombosis cases should always have the jugular vein ligated to prevent any further entrance of the streptococcus (the usual cause) into the circulation. Particular care is needed in diagnosing sinus thrombosis complicating erysipelas or scarlet fever.

Dr. H. Kahn asked Dr. Holinger if he had understood him to say that the swelling of the eyelid was a symptom of late sinus thrombosis. Dr. Kahn related a case in which a neglected mastoid was operated on and the sinus accidentally wounded. In the course of a week swelling of the eyelid developed, on the side of the operation. In the course of an hour a chill occurred, which recurred the next day. The wound was reopened and the sinus found thrombosed. Bleeding was secured from both sides, the wound packed and the patient recovered. This was in direct contradiction to the statement of the essayist that swelling or edema of the eyelid and swelling of the face is a symptom of late thrombosis.

Dr. Joseph C. Beck said that he used to operate in a conservative way on these sinus cases, with not a very good result. Lately he has been ligating, opening the sinus and packing off the torcular region and going down towards the bulb, being insistent on getting the bleeding from below, as near the jugular bulb as he possibly can. Then, if he does not get bleeding he ligates the jugular, not necessarily resecting, unless there are distinct evidences of a thrombosed vein. As a means of prevention he could see nothing better than that. Ligation is very easily done and this is a procedure which the speaker practices with excellent results.

As regards swelling of the face, we see that very frequently from the cutting of the temporal vein following ordinary mastoid operations.

Dr. Holinger, in closing the discussion, said that in acute suppurations of the middle ear the temperatures ought to be taken regularly. This is the only means of early discovering a sinus thrombosis, and by operating according to the method described a quicker and better result will be obtained in a much easier way.

## FULTON COUNTY MEDICAL SOCIETY

The nineteenth annual meeting of the Fulton County Medical Society was held in the City Hall in Canton, Oct. 3, 1916, and was called to order at eleven a. m. by President Allison.



A member's transfer card to Madrid, Iowa, was granted Dr. W. H. Betts.

The following officers were elected: President, Dr. J. C. Simmons; first vice-president, Dr. W. L. Crouch; second vice-president, Dr. E. P. Coleman; secretary-treasurer, Dr. B. E. Ray; necrologist, Dr. F. N. Stoops; membership committee, Dr. Jennie Parks, E. M. Price; board of censors, Dr. Jennie Parks.

Adjourned until 1:00 o'clock p. m.

Dr. Frank Smithies of Chicago presented a clinic and paper on "Diagnosis of Gastric Disturbances."

Dr. B. E. Fillis of Chicago gave a paper on "Pyelography and Its Surgical Importance."

A paper on "Passing of the Physician of the Old School" was given by Dr. C. B. Horrell of Galesburg.

After extended discussion adjournment was taken to the Congregational Church, where a banquet was served by the ladies of the church.

After the banquet an hour or more was enjoyed by all in music and social talks by many.

Twenty-four members and four visitors were present.

D. S. RAY, Secretary.

#### HANCOCK COUNTY

On Monday, Oct. 2, the local physicians and their wives met the out-of-town members and guests at Hotel Cutler, Carthage, where tables had been reserved for the party.

After dinner they adjourned to the American theater, where several musical numbers were given by the Carthage College Male Quartet and two interesting readings by Miss Elizabeth Smith.

Dr. Carl Black of Jacksonville read a paper on "Some of the Newer Methods of Anesthesia," illustrating the same with stereopticon views. Dr. Oliver Clark of Keokuk spoke on "Operative Treatment of Fractures," and Dr. Lapsley of Keokuk on "The Tonsil and Its Relation to Disease." Interesting discussions followed each paper. The topic, "Anesthesia and Oxytocics in Labor," was discussed by Drs. Blender, Parr, Fuller and Williams.

Dr. Knight of Carthage and Dr. Wayland of Dallas City made application for membership. It was noted that the death of Dr. J. H. Callahan, who was for many years a faithful member of the association and at one time its president, occurred since the last meeting.

Dr. Blender, who has served both as president and secretary, will transfer his membership to Peoria county. Dr. Blender has merited the respect and hearty good will of his professional brethren and they bespeak for him success in his new field.

Twenty-two members and visitors were present.

#### JO DAVIESS COUNTY

The Jo Daviess County Medical Society met in regular Fall session in the Mystic Worker hall, Stockton, Ill. Meeting called to order by the president, A. T. Nadig, at 2:30 o'clock, October 12, 1916.

Twenty-five members and guests were present.

Drs. J. Rodge of Apple River and W. Frederic Smith of Galena were elected members of the society.

Dr. J. H. Schrup read a paper on "Comparison of American and European Methods," discussed by Drs. Guthrie, Best, Bench, Peck, and Boots, Schrup closing the discussion.

Dr. C. L. Best read a paper on "Analgesia in Obstetrics," discussed by Drs. Peck, D. G. Smith, Maguire, Guthrie and Downing; Dr. Best closed the discussion.

The physicians were then requested to join the ladies and with them proceed to the Masonic Temple, where a banquet and entertainment was prepared for them.

T. J. STAFFORD, Secretary.

#### MACOUPIN COUNTY

The Macoupin County Medical Society met in regular session in the Masonic reading rooms and was called to order by President F. A. Renner of Benld.

Ten members and visitors were present.

Dr. M. Herschleder of Mt. Olive, a former member of Lake County Medical Society, and Dr. G. A. Floreth of Mt. Olive were elected to membership in the society.

Dr. R. B. H. Gradwohl, of St. Louis, gave an address on the subject, "The Value of Blood Chemical Methods in Diagnosis and Treatment of Nephritis, Diabetes Mellitus and Other Diseases."

Dr. Hudson Talbot, of St. Louis, gave an address on the subject, "Diseases of the Gall Bladder."

Dr. J. P. Matthews, of Carlinville, gave an address on the subject, "Happy Results from the Use of Vaccines."

A standing vote of thanks was given to Drs. Gradwohl, Talbot and Matthews for their addresses.

Several interesting cases were reported to the Society by the members who had the cases under observation.

This was a very interesting meeting, though several physicians were absent, being called as witnesses in the Circuit court.

The meeting adjourned to meet at Staunton, November 28.

T. D. DOAN, Secretary.

#### MADISON COUNTY

The September meeting of Madison County Medical Society was held on the first at Highland, in spite of an all-day rain. In the absence of both president and vice-president, Dr. A. F. Kaeser, of Highland, was elected president pro tempore. Eighteen members and visitors were present.

Dr. Francis M. Barnes, Jr., of St. Louis, read a paper on "Diagnosis of Common Types of Psychoses," in which the picture of various forms of mental derangements, as it presents itself to the general practitioner, was cleverly drawn. He emphasized the fact that a clear, early diagnosis should be made in every case, both in justice to the patient and the community at large.

Dr. Malcolm A. Bliss, of St. Louis, followed with an address on the "Treatment and Management of Mental Cases at Home." This address received marked atten-

tion, for we are all called upon at times to decide as to whether to keep certain cases at home for treatment. He outlined in detail what arrangements should be made for home treatment. He called attention to the nursing and feeding of such patients and advocated the continuous hot bath for quieting an excited case, rather than the use of high power drugs for that purpose. He said that patients showing homicidal or suicidal tendencies should have institutional care and protection. He concluded by saying that not all insane persons should be sent to hospitals or sanitariums, but that there were many such cases that could receive appropriate treatment in their own homes.

Mrs. M. A. Herrick, our county community nurse, was present and gave a short talk as to scope and purpose of her work and asked for the loyal support of the members of our society, in the several communities of the county.

Dr. John Gordon, of Pocahtontas, and Dr. Nicholas Baumann, of Pierron, visitors from Bond county, were called upon and responded in a few appropriate remarks. Dr. Gordon began the practice of medicine in Arkansas during the Civil War and has now completed fifty years of practice in Illinois. His father was a physician and his seven brothers were all followers of Aesculapius.

A substantial lunch was served by the local profession, who did everything in their power to make our stay one of pleasure and profit.

The society arranged to pay the expenses of Mrs. M. A. Herrick as its representative at the Mississippi Valley Conference on Tuberculosis at Louisville, October 4-6.

### MORGAN COUNTY

The Morgan County Medical Society met at the Passavant Hospital, Jacksonville, October 19, 1916, at 11 a. m. Luncheon was served at the hospital, after which the following program was given.

"Operative Treatment of Fractures," by Dr. Carl E. Black. Dr. Black discussed fractures in general with particular reference to operation. Seven cases were presented which showed most excellent results after operative treatment. Although not favoring operating on all fractures, Dr. Black emphasized the importance of operating where good results could not be obtained otherwise, and gave the following indications for operation:

1. Deformity that cannot be reduced.
2. Deformity which cannot be retained in position.
3. Open severe compound fractures.
4. Cases of mal-union or non-union.
5. Cases of extreme callus.
6. Cases where shortening is sure to result.

Contra-indications for operation:

1. Infections in skin where fracture is not compound.
2. General debility, nephritis, etc.
3. Lack of experience and favorable facilities, etc.

The seven cases presented were further illustrated by x-ray plates and instruments and means of holding

bones in position were shown. The plate most favored was the bone plate with bone screws. The value of x-ray was particularly emphasized by Dr. Black, and also other members of the society, in discussion. Discussion opened by Dr. F. A. Norris from the operative standpoint; Dr. D. W. Reid from the non-operative standpoint, and Dr. H. A. Chapin from the x-ray standpoint. The subject was very extensively discussed by members present.

At the close of the meeting Dr. A. L. Adams brought up the subject of voting for the County Tuberculosis Sanitarium at the coming election.

Visitors present: Drs. Valentine of Tallula, Skeel of Kempsville, and Smith of Roodhouse.

THOS. G. McLIN, Secretary.

### OGLE COUNTY

The Ogle County Medical Society met in the public library at Rochelle, October 18, 1916, at 7:30 p. m. The meeting was called to order by the new president, A. H. Beebe of Stillman Valley. Ten members were present and the following visitors: Dr. Daniel Lichty, Rockford; E. S. Murphy and E. O. Edgar of Dixon, and Louis Thexton, Chicago.

The following resolution was put before the society and carried by a unanimous vote:

WHEREAS, The question of establishing a county sanitarium for the treatment of tuberculosis will come before the Ogle county voters in the coming election; be it

*Resolved*, That the Ogle County Medical Society expresses itself as heartily in favor of this measure and earnestly recommends it to the voters of Ogle county.

Dr. Kittler was appointed to present a floral tribute and express the sympathy of the society to Dr. Bushnell, an old and respected practitioner of Ogle county, who has been ill.

Dr. R. O. Brown of Mt. Morris and Dr. G. S. Henderson of Holcomb were elected to membership.

Dr. Louis Thexton, Park Avenue Hospital, Chicago, gave an able and instructive address on "The Relation of the General Practitioner to the Hospital and the Specialist." This address was discussed by Drs. Beebe, Beveridge, Lichty and Johnson.

Dr. Thomas McEachern of Rochelle read a paper on "Symptoms and Diagnosis of Infantile Paralysis, from a Typical Case Treated." This was a classical paper and owing to the important subject was ably discussed by Drs. Beebe, Beveridge, Henderson and Kittler.

A rising vote of thanks was given Drs. Thexton and McEachern for their excellent papers.

The society then adjourned to meet in April, 1917.

DR. J. T. KRETSINGER, Secretary.

### PIKE COUNTY.

The Pike County Medical Society met in Barry at the Public Library building, October 26, 1916. There were twenty members present, also a number of visitors, including dentists and others. Dr. O. C.



Wise of Griggsville was elected a member of the Society.

Dr. W. H. Garrison of Pearl read an interesting paper on "Tetanus," with report of three cases that made complete recovery. The treatment was sulphate of magnesia as an eliminant, early drainage, tincture of iodine locally, lobelia and gelsemium to their full effect and anti-tetanic serum. In the discussion Dr. Center advocated as little washing as possible and spoke of the value of boric acid in glycerine, making a cream like compound applied to wounds and various traumatic conditions. Dr. Goodman reported a case of tetanus from traumatism occurring twenty-three days after the injury and resulting in recovery, the only symptom now being extreme nervousness.

Dr. C. E. Beavers of Barry read a paper on "The Allen Treatment of Diabetes," which evoked much interest and discussion.

Dr. Center read a paper on "Infantile Paralysis," which summed up thoroughly our present day knowledge of this disease; this paper receiving also much attention and comment from those having had cases of this malady.

Altogether this gathering of the Society was one of its very successful ones, at least one-half of its registered membership being present.

W. E. SHASTID, Secretary.

#### WINNEBAGO COUNTY

The Winnebago County Medical Society met at Nelson Hotel, Rockford, October 10, 1916, at 8:30 p. m., with Dr. C. A. Walker in the chair. There were 24 members and 2 visitors present.

Dr. F. C. Brooks was voted in as a member of the society.

Dr. W. W. Hume, recently located in Rockford, gave a talk on "Mastoiditis." He discussed the etiology of this disease and the importance of early diagnosis and proper treatment of other ear conditions—in its prevention. He also described the removal of tonsils by the Sluder method, and illustrated two cases.

Miss Bertha Logan, superintendent of the local Tuberculosis Sanitarium, gave a report of the annual Mississippi Valley conference of tuberculosis workers.

Dr. W. E. Park gave a brief report of the Tri-State meetings held at Freeport, September 26 and 27.

Dr. Kinley, of the milk commission committee, made a favorable report of his investigations of Kuharskis' Dairy Farm.

It was moved and seconded that the chair appoint a committee of three members to investigate and plan out what might be done toward the dispensation of fresh and pure milk within the city of Rockford. The chair appointed Drs. Park, Gill and Kinley.

Owing to the late deaths of Drs. W. R. Franklin and F. K. Hill, the chair appointed a committee, composed of Drs. Shultz, Tuite and Allaben, to draw up resolutions of condolence to the bereaved, to be read and acted upon at the next meeting.

C. M. RANSEEN, Secretary.

#### Personals

Dr. H. L. Corbus has been appointed health officer of Kankakee.

Dr. Nathan Cohen, Chicago, was stabbed by a man who jumped on the running board of his auto.

Dr. J. C. Krafft, 25 E. Washington street, Chicago, announces that he limits his practice to diseases of children.

Dr. Theodore Tieken announces that he has discontinued general practice and will specialize in internal medicine.

Dr. Joseph W. Beaudette, Chicago, is a tough proposition for holdup men. He beat three of them with his fists (or feet).

Dr. Alvin B. Cary, Donnellson was operated on for disease of the kidney in the Jewish Hospital, St. Louis, October 14.

Dr. Raymond L. Hatfield, Danville, suffered a severe shock from a Roentgen-ray machine at St. Elizabeth's Hospital, Danville, October 16.

Dr. Meyer Solomon, of Chicago, has returned to his home after a prolonged absence since the first of the year and has resumed his practice.

Dr. Franklin H. Martin, Chicago, has been appointed a member of the advisory commission to be associated with the council of national defense.

Dr. Dwight C. Orcutt, Chicago, has been appointed chief surgeon in the ophthalmic department of the Illinois Charitable Eye and Ear Infirmary.

Dr. Gilbert M. Loewe, Chicago, who has been working under the German Red Cross at Naumburg, Germany, for eight months past, has returned home.

Dr. Julius H. Hess has been appointed professor of pediatrics and head of the division of pediatrics in the University of Illinois, College of Medicine.

Dr. Dwight C. Orcutt has been appointed ophthalmic surgeon at the Illinois Charitable Eye and Ear Infirmary, succeeding Dr. Oscar Dodd, resigned.

Dr. D. N. Eisendrath, Chicago, held the annual surgical clinic of the Montgomery County Medical Society, at St. Francis Hospital, Litchfield, October 24.

Dr. Harry C. Rolnick has reached Berlin on his way from the Graudenz Hospital to his new

post of duty at the psychopathic hospital in Pardubitz, Bohemia.

Drs. N. La Doit Johnson and Margaret R. Otis and a druggist, George E. Hochhaus, of Chicago, were arrested for selling excessive amounts of heroin to an habitue.

Dr. James W. Pettit, Ottawa, was elected president of the Mississippi Valley Sanatorium Association at the meeting of the Mississippi Valley Conference on Tuberculosis, October 7.

Dr. Charles H. Starkel, Belleville, chief surgeon of the Southern Railway Company, entertained the members of the staff of the railway at a dinner at the St. Clair Country Club October 3.

Prof. Roy G. Hoskins, formerly associate professor of physiology of Northwestern University Medical School, has been appointed professor and head of the department of physiology in that school.

Drs. Christian B. Luginbuhl and Franz H. Harms have been appointed by the state department to work under the direction of the American ambassador at Berlin for the relief of British prisoners of war in Germany.

The resignation of Dr. Arthur R. Edwards as dean of Northwestern University Medical School was accepted by the trustees of Northwestern University, October 17. Arthur I. Kendall, professor of bacteriology, was made acting dean.

At the semi-annual meeting of the Association of Railway Chief Surgeons, October 16, Dr. J. O. Cobb, of the U. S. Public Health Service, spoke on "The Activity of the United States Public Health Service Pertaining to Water Supply of Interstate Common Carriers."

Dr. Albert H. Roler, Evanston, has been appointed, by the secretary of state, assistant at the American embassy in Berlin, his duties being to inquire into and report on the condition of British prisoners in Germany and German prisoners in Russia. Dr. Roler sailed for Berlin, October 12, via Denmark.

Dr. H. C. Merker, well known to the Chicago physicians, who for years represented the Arlington Chemical Company, is now introducing to the Chicago profession the products of the biological laboratories (Bacterins) of Swan-Myers Co. of Indianapolis. Our readers will note that Swan-Myers Co. are advertising in the Journal.

Dr. W. F. von Zelinski, Chicago, has been relieved from active duty in the Medical Reserve

Corps and has resumed practice. The doctor served at Jefferson Barracks, Mo., Ft. Sam Houston, Texas., and at the Base Hospital, Nogales, Arizona. The return home was made by way of the Pacific coast with stops at points of interest. The doctor reports his service as most interesting and highly instructive.

## News Notes

—The Municipal Tuberculosis Sanatorium at Rock Island was opened October 19 with a reception.

—Dr. L. Duncan Bulkley began his eighteenth series of free clinical lectures on diseases of the skin at the New York Skin and Cancer Hospital November 1.

—The Chicago city council, October 9, passed an ordinance appropriating to the health department \$17,000 to continue its work against anterior poliomyelitis.

—The forty-second annual meeting of the Southern Illinois Medical Association was held at Benton, November 2 and 3, under the presidency of Andrew J. Butner, Harrisburg.

—The Mary Thompson Hospital Auxiliary has been formed with Mrs. George Patrick, Wheaton, president, and Dr. Goldye Hoffman as a vice-president, to perpetuate the work of the founder of the hospital, the late Dr. Mary Thompson.

—The press account of a brilliant operation for ankylosis of the jaw performed before the recent meeting of the Clinical Congress of Surgeons of North America ends with the statement: "Mr. Gaffney died tonight." Do you suspect that he was the patient?

—At the opening exercises of the College of Medicine of the University of Illinois, held in Chicago, October 5, Edmund Janes James, president of the university, delivered an address on the "Functions of the State in the Promotion of Medical Education and Research."

—It is said that 385 fewer babies died during the recent epidemic of infantile paralysis in New York City than during the same weeks of the summer of 1915, owing to the greater care mothers gave their children during the epidemic. A bad scare is a great aid sometimes.

—A series of lectures on the care of children is



to be given at the Children's Memorial Hospital, Chicago, on Wednesdays at 11 a. m. The lecturers include Drs. Henry F. Helmholtz, Samuel J. Walker, Frank S. Churchill, Coleman G. Buford, Edwin W. Ryerson and Miss Elsie Burks, New York.

—The twenty-second meeting of the Robert Koch Society for the study of tuberculosis was held October 26 at the Hotel Morrison. Dr. Harry J. Corper spoke on "Some Interesting Laboratory Problems in Tuberculosis," and Dr. Walter A. Gekler discussed the "Clinical Applications of These Problems."

—Orders were issued September 17 by the United States Public Health Service that the passenger steamers on the Great Lakes shall either install water purifying plants or take water on board at port of call. Of the twenty-two passenger steamships entering the port of Chicago, eleven have already complied with the requests, previously made, by the installation of violet ray plants.

## Marriages

HARRY LEVI DAY, M. D., to Miss Nola Marks, both of Bluffs, Ill., October 25.

GIOCHINO LAVIERI, M. D., to Miss Edna C. Gibbs, both of Chicago, September 30.

THOMAS JOHN SULLIVAN, JR., M. D., to Miss Gertrude Scotten, both of Chicago, October 4.

ANTHONY MATHIAS DRUMMY, M. D., Lincoln, Ill., to Miss Nora Ryan of Paxton, Ill., October 4.

ROSCOE CONKLING EATON, M. D., to Miss Edna E. Moody, both of Chicago, September 28.

JAY CLAUDE SIMMONS, M. D., Norris, Ill., to Miss Rachel Catron of Fairview, Ill., September 27.

ARTHUR FREDERICK SCHUETTLER, M. D., to Miss Matilda Genseka, both of Chicago, October 18.

ARTHUR LEE HAGLER, M. D., to Miss Oattie Morgan Maxey, both of Springfield, Ill., at St. Louis, September 9.

JOHN WESTON EMMONS, M. D., Poplar Grove, Ill., to Mrs. Emma Downy of Aurora, Ill., at Rockford, Ill., September 28.

DANA WINSLOW ATCHLEY, M. D., New York, to Miss Mary C. Phister of Chicago and New-

bury, Mass., at Newburyport, Mass., September 22.

## Deaths

JENNIE D. KETCHUM, M. D., Godfrey, Ill.; Hahne-mann Medical College, Chicago; died at her home, September 23; aged 50.

ERASTUS P. HILLIGOSS, M. D., Decatur, Ill.; Missouri Medical College, 1878; St. Louis, Mo.; aged 64; died at his home October 23.

JOACHIM B. WEINTRAUB, M. D., Chicago; University of Vermont, Burlington, 1893; aged 46; who was shot by a patient in his office, October 9, died the next day in St. Luke's Hospital from his injuries.

JOHN WILLIAM WAS, M. D., Chicago; University of Michigan, Ann Arbor, 1878; aged 61; formerly a member of the Illinois State Medical Society; died at his home, September 23, from carcinoma of the intestine.

DAVID PAULSON, M. D., Hinsdale, Ill.; Bellevue Hospital Medical College, 1894; aged 48; a Fellow of the American Medical Association; founder and superintendent of the Hinsdale Sanitarium; died in Asheville, N. C., October 16.

JOHN W. HOSIER, M. D., Spring Valley, Ill.; Medical College of Ohio, Cincinnati, 1873; aged 69; for forty years a practitioner and druggist of Bureau County, Ill.; died in St. Margaret's Hospital, Spring Valley, October 2, from diabetes.

CHESTER H. LATHAM, M. D., Pecatonica, Ill.; Northwestern University Medical School, Chicago, 1876; aged 64; a member of the Illinois State Medical Society; died at the home of his daughter, in Seward, Neb., October 11, from anemia.

ROBERT A. FITZGERALD, M. D., Alton, Ill., formerly of Cairo, Ill.; St. Louis College of Physicians and Surgeons, 1904; aged 42; a member of the Illinois State Medical Society; died in the Missouri Baptist Sanitarium, St. Louis, October 10, from pneumonia.

FRANK KNIGHT HILL, M. D., Rockford, Ill.; New York Homeopathic Medical College, New York, 1875; aged 65; formerly a member of the Illinois State Medical Society; surgeon to St. Anthony Hospital, Rockford; died at his home, October 8, from heart disease.

JAMES H. CALLAHAN, M. D., Carthage, Ill.; Bellevue Hospital Medical College, 1870; aged 72; formerly a member of the Illinois State Medical Society, and president in 1913 of the Hancock County Medical Society; died at the home of his daughter in Cedar Rapids, Iowa, September 22.

MILTON BENNETT TITUS, M. D., Chicago; New York University, New York, 1881; aged 58; formerly a member of the Illinois State Medical Society and once president of the Allegany County (N. Y.) Medical Society; died in St. Luke's Hospital, Chicago, October 14, from the effects of poison, believed to have been self-administered, with suicidal intent.

ELIJAH ILES KERLIN, M. D., Chicago; University of Pennsylvania, Philadelphia, 1886; aged 62; a Fellow of the American Medical Association and for many years a member of the staff of St. Joseph's Hospital and the Lincoln Park Sanitarium for Sick Babies; who had suffered several years from bronchial asthma; died at his home, October 11, from acute dilation of the heart.

JOSIAH L. WILCOX, M. D., Springfield, Ill.; Washington University Medical School, St. Louis, 1860; Illinois Army Board, 1863; aged 80; surgeon of the Eleventh Illinois Infantry, U. S. V., throughout the Civil War; a member of the legislature in 1874 and collector of internal revenue in the central Illinois district; for several years city physician of Springfield; died at the home of his daughter in Smithfield, Ky., October 4.

## Book Notices

**A TEXT-BOOK OF PRACTICAL THERAPEUTICS.** With especial Reference to the Application of Remedial Measures, of Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, B. Sc., M. D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College, Philadelphia; Physician to the Jefferson Medical College Hospital; one-time Clinical Professor of Diseases of Children in the University of Pennsylvania. Sixteenth edition, revised and enlarged. Imperial octavo, 1009 pages, with 149 engravings and 17 plates. Cloth, \$4.75, net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

It would be interesting to know how many medical books written in 1916, A. D., will live to the 16th edition. We predict not one.

Hare's Practical Therapeutics needs no recommendation to medical practitioners. It is necessary only to note the issuing of a new edition. It is also interesting to note the third Chinese edition of this work. This edition retains the same general plan as its predecessors, thoroughly revised and brought down to date.

In the present edition the official preparations of the new U. S. Pharmacopœia and the new British Pharmacopœia have been introduced; and every article has been revised in an attempt to bring the text into complete conformity with the views generally accepted.

We predict for this edition the same success and popularity held by former editions.

**THE CONTROL OF HUNGER IN HEALTH AND DISEASE.** By Anton Julius Carlson. Price, \$2.00, net. The University of Chicago Press. Chicago.

At no other time in the history of medicine have so many ailments been assigned to errors of diet, particularly to "overeating." This applies especially to the decrease in longevity of adult life.

The author of this book has seen the need of further study of the physiology of the stomach by physicians. This book is highly scientific, and covers the subjects of appetite, hunger and digestion in a very thorough manner, the author directing his energy particularly to

the physiology of hunger. He tells much of what hunger is, and why and somewhat of how to control hunger experimentally. We are afraid, however, that people practically will continue to exhibit hunger in spite of attempted control.

However, the book is valuable as it is. We all should be better physiologists, and this book will stimulate further work along this line.

**ORAL ANAESTHESIA.** Local Anaesthesia in the Oral Cavity. Technique and Practical Application in the Different Branches of Dentistry. By Kurt Hermann Thoma, D. M. D., Assistant in Anaesthesia, Harvard Dental School, Harvard University; Assistant in Dental Anatomy, Harvard Medical School, Harvard University; Fellow of the Harriet N. Lowell Society for Dental Research of Harvard University. Member of National, State and Local Dental Societies. Price \$3.00 net. Ritter & Flebbe, 120 Boylston Street, Boston.

This work is, of course, intended for the practicing dentist and should be in the hands of every dentist. Much of the pain suffered in the dentists' chairs may be avoided or at least partially alleviated, and the author tells you how this may be done. He takes up in a concise manner the anatomy of the mouth, particularly the bone and nervous anatomy, and demonstrates how local anaesthesia may be best obtained. A number of drawings and radiographs illustrate the text, and make exactly clear the author's meanings.

**ORAL ABSCESSSES.** By Kurt H. Thoma, D. M. D., Lecturer on oral histology and pathology and member of the Research Department of Harvard University Dental School; Instructor in Dental Anatomy, Harvard Medical School; Oral Surgeon to the Robert B. Brigham Hospital; Visiting Dental Surgeon to the Long Island Hospital; Consulting Oral Surgeon to the Boston Dispensary. Price \$4.50 net. Ritter & Co., Boston. 1916.

The author in his introduction says, "This volume has been written with a view to establishing a correct relationship between the condition of the oral cavity and the health of the patient, and also in the hope that a clear presentation may lead to a more general understanding of this new field."

The book, of course, is of more interest to the practicing dentist and the student, but the general practitioner will also have use for it. With the present day teaching, the physician is looking more to the teeth as local foci of infection.

There is a considerable amount of elementary information contained in the book for which the physician will not care, but there is also a large amount of information on infections springing from defective teeth, which is of great importance.

One of the chief values of the book to the physician lies in an excellent lot of radiographs and colored microphotographs and other colored plates which frequently reveal more to a student than does a text.



# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

VOL. XXX

CHICAGO, ILL., DECEMBER, 1916

No. 6

## Original Articles

### THE PREVENTION OF DISABILITY FOLLOWING FRACTURE OF THE OS CALCIS.\*

C. R. G. FORRESTER, M. D.,  
CHICAGO.

As a not uncommon foot injury frequently leading to considerable permanent disability and reduction in earning power, fracture of the os calcis deserves earnest consideration by the surgeon. Statistics based upon the tracing of the injured through his labor-union, shows that more than half of those suffering this injury are not able to resume the occupation pursued before the accident; in other words, that in more than fifty per cent of these cases, treated by routine methods, so great a degree of disability follows as to almost totally incapacitate the patient and necessitate large awards under the industrial compensation acts, a fact reflecting alike upon the scientific aspect of bone surgery and upon the efficiency of industrial medicine.

That such unsatisfactory results might be greatly reduced is our firm belief, based, on the one hand, upon a study of the anatomical and pathological factors involved, and, on the other, upon a review of the cases receiving our personal attention and those discussed in the literature. Unquestionably, routine treatment, which, until recently, was purely expectant, is ineffective and often detrimental, notwithstanding the improvements introduced in the last ten years.

Erroneous diagnosis no longer can be excused, as we are supplied with almost pathognomonic signs of this condition and, when care is exercised as to the angle of view, the x-ray gives unfailing information, not so much as to the existence of fracture, but concerning the degree of displacement and the mode of surgical interference necessary to a perfect result.

This is an injury of working men in the prime

of life and is peculiarly associated with employment on elevated structures. From the figures of the Rostock clinic, among 1,393 fractures, of which 114 were fractures of the foot bones, calcaneum fractures were found 17 times, or 1.22 per cent, and fractures of the calcaneum and talus, four times, 0.29 per cent. Nothing definite can be said as to the minimum force necessary to cause a fracture, but, since the advent of successful radiography, many of the cases formerly treated for sprain of the ankle and for Pott's fracture, have been recognized as calcaneum injuries.

Fracture of the os calcis is almost invariably comminuted, not frequently compound, and is a dehiscion by compression, referable to a fall from an elevation upon a hard surface. Such is the interrelation of the malleoli and the astragalus that the momentum of the body is transmitted through the superior joint by curved surfaces well designed mechanically to withstand considerable force; but from the talus through the os calcis, this force acts upon a bone not ideally adapted to withstand sudden shock and of such complex structure that the abnormal velocity is almost certain to be directed along a weak plane and lead to fracture. So it happens that, while fracture of the calcaneum and astragalus frequently coexist, the os calcis gives way many times without a similar rupture of the astragalus.

The lines or planes of fracture are extremely varied and generally numerous; in fact, there is no typical fracture, but a very common event is the shelling off of the outer dense bone surface in the form of a plate. Likewise most often a relatively large posterior fragment results. Direct trauma ranks second to falls as an etiologic factor, but is exceptional, sometimes following the engagement of the heel between a wheel and the curb, or the blow of a heavy body applied laterally to the heel. Transverse fracture is rare, being reported to have followed a severe twisting of the foot by the spokes of a wheel.

\*Read at meeting of the Chicago Medical Society, October 25, 1916.

Separation of the sustentaculum tali is noteworthy, perhaps most frequently seen in multiple fractures of the tarsus, but usually is only a temporary distributory factor. Fracture by avulsion, etc., is of theoretical importance only, few indeed having been recorded. Plagamamis' figures, from the Rostock clinic, although open to serious question as to their representative of the typical fractures seen among the working men of this country, are as follows:

"Ten compression fractures of entire bone, four fractures of the posterior process, two fractures of the anterior portion and body, one fracture of the posterior process and body, the last two groups not being associated with disturbance of the sustentaculum tali."

The fragmentation of the superior median portion of the bone is such that disturbance of the posterior calcaneo-astragaloid joint is common, and to this fact we may refer much of the disability following these injuries. The *modus operandi* of this action is not perfectly explicable, sometimes being due to direct extension of a piece of bone into the articular space—when the sulcus calcanei is disturbed or the interosseus ligament torn—sometimes to a tilting of part of the joint surface, and often to nothing which can be revealed by the x-ray. It will be remembered that this posterior articular facet is of irregular shape, varying in different individuals, being most often circular, sometimes oval, and occasionally triangular. So also do many of the marks of the os calcis, and, for that matter, of the entire tarsus, vary in the individual, for which reason it is of the utmost importance, when one has recourse to the x-ray, that both heels shall be examined, the uninjured representing the normal topography, or if both be injured, individual variation in the heels will become apparent. At this time it is well to remark the occasional appearance of the os trigonum, which unless remembered may be mistaken for a fragment.

The posterior fragment is always pushed upward to some extent and is generally displaced externally also. The action of the calf muscles through the tendo Achillis sometimes causes more displacement, a separation of four and one-half inches being recorded. A changed relation of the foot skeleton to the plane in standing will result from this displacement, a mechanical flat-foot from the total removal of the posterior but-

tress of the arch, or a partial flat-foot with pressure on the structures of the sole follows the distortion of the posterior pillar. The latter, although productive of much discomfort, is relieved by the use of a proper support worn in the shoe; the former can be remedied only by the use of a block immediately beneath the heel, and this only when the distortion is not extensive. Outward displacement of the posterior fragment leads to static flat-foot and does not yield readily to apparatus. More or less straining and resulting weakness of the sustaining ligaments is invariable, in itself predisposing to simple flat-foot, correctible by arch support.

Small fragments of bone are often interposed between the level of the base of the larger fragments and the sole, forming a more or less sharp spur which is driven into the tissue pad when any pressure is applied, as by standing, leading to a very tender heel, and not readily relieved either by support to the arch or by the use of a perforated plate under the heel itself.

The upward displacement of the plate-like outer shell of the bone and the resulting callous thickening may be so great as to bring the bone into contact with the tip of the external malleolus. It will be remembered that the *processus trochlearis* (the peroneal spine) separates the tendons of the *peroneus brevis* and *peroneus longus* muscles, and is located on the external surface of the bone. It is by no means uncommon to see so great an upward movement of this plate as to bring the tendon of the *peroneus brevis* into relation with the tip of the fibula. These conditions produce an almost total inability to stand upon the injured foot, and necessitate the chiseling of a new facet upon the bone when possible.

If unrectified, the disturbance of relations in the posterior calcaneo-astragaloid joint brings about a reduction or total loss of the lateral motion, pronation and supination, of the foot, which is very troublesome, and does not offer any method for restitution by the later use of apparatus.

From what has been stated regarding the pathology of these fractures, an idea of the findings on examination may be obtained. Although it would be inaccurate to say that every case may be recognized without recourse to the x-ray, we may very properly state certain findings which are generally sufficient, viz.:



1. Swelling and thickening posterior to the medio-tarsal joint on both the internal and external surfaces.

2. Considerable hard (bony) thickening below the external malleolus, this being almost a constant finding.

3. The malleoli are in normal position and relations and there is no interference with the ankle-joint-flexion and extension are not prevented.

4. The lateral motion of the foot, pronation and supination, is usually markedly limited, often absolutely, a point of almost pathognomonic importance.

Crepitus can sometimes be elicited, especially if sufficient force to break up the invariable impaction is used. If the posterior fragment is separated, it may sometimes be palpated in the upper heel.

The radiographic findings upon which the diagnosis of obscure cases may be based are in general: a change in the density of the shadow, as compared with the normal heel, a disturbance in the typical lamellar structure of the bone, and an unusual angle of the axis of the posterior fragment with the axis of the anterior body. Fragments, when seen, are, of course, sufficient.

We will now review briefly the more valuable suggestions of treatment, so far devised, together with some slight comment on their promise of results. Nothing can be gained by the perusal of the older text-books, as the recognition of the existence of fracture was by no means common until recently and, when recognized, the treatment was of a purely negative nature.

In general, if there is no displacement, the treatment is immobilization in a cast with a temporary reinforcement of the arch from toe to knee for about four weeks, with massage and passive motion as well as weight bearing till the end of the eighth week. When displacement is present, reduction is necessary. The use of a general anesthetic is usual. Traction and manipulation are recommended. Fixation in slight plantar flexion is generally suggested.

Cabot and Binney, in fractures with a large posterior fragment, overcome the displacement by drawing the heel downward and forward, then immobilizing. Their treatment of other forms is in no way unusual.

Cotton and Wilson are responsible for the first advance in treatment of this condition. A

spindle (a steel sound) is passed anterior to the tendo Achillis, through the back of the heel through a small incision on either side, and by firm traction the posterior fragment is brought down. If there is any indication, a tenotomy is performed. The foot is then fixed in plantar flexion. Nailing of the posterior fragment has been used.

When the plate-like outer shell is markedly displaced upward, Cotton recommends breaking up of the impaction by force. The Thomas wrench is not used, the hand being more successful. When the fragments are separated, they are reapposed as well as possible, the foot is laid with the inner surface in contact with a sand bag, the outer is protected by a felt pad, and a reimpaction is produced by repeated blows with a heavy mallet.

Of the open operations and the amputation of the calcaneum as recommended by Beck when the bone is crushed, we will say nothing.

In taking up the discussion of this form of affection, it is my desire to bring before the medical and surgical body the importance of making a more definite and concise study of this particular fracture, giving it more care than heretofore and having some basis upon which a proper line of treatment can be conducted for the benefit of the injured person.

In referring to the treatment of this form of injury, I find that the subject is not well covered by different authors. As far as I have been able to determine no stress has been laid upon the one particular feature that has been brought to my attention in the handling of a great number of cases. I find that with rare exception the man who recovers from an injury of this nature complains particularly of the lack of external rotation, continual pain below the external malleolus and a marked inability on this account to walk on uneven surfaces, and that through the lack of proper radical treatment at the time this injury is received the disability becomes one of considerable moment.

When these cases come under my attention, I first proceed to obtain two X-rays, one a lateral view to note the change in the position of the os calcis; the other an antero posterior view through the ankle-joint to determine whether there is any displacement of the plate like outer shell immediately beneath the external malleolus. In these injuries, considerable force being neces-

sary to produce fracture, there is always a marked swelling, ecchymosis and without doubt considerable effusion into the surrounding tissue. I therefore elevate the foot as high as possible to assist in absorption of the effusion, together with the application of heat or ice packs, which is elective. I allow a period of ten days to two weeks to pass for this absorption, in which event any open operation is not so readily susceptible to infection. A complete general anesthesia is advisable.

Following the regular preparation for open operation on bone structures, I first proceed to make an incision on either side of the tendo-achilles, at a distance of about two to three inches apart, severing the tendon half way through on each side. This permits of an increase in length and relief of tension of the tendon, taking traction off of the heel. With marked hyperflexion the partial severing of these tendons can be readily felt and frequently heard. Following this procedure, I attempt to correct the impaction of the outer shell of bone, which exists below the external malleolus, in order to be able to mold the bones at this point and thereby reduce the excess amount of callous which usually exists below the external malleolus and which is the causal factor of the pain and pressure on the peroneus muscles and unquestionably some of the smaller cutaneous branches of the posterior tibial nerve which supplies the annular ligament. I proceed to bring the heel and toes down with pressure on the arch, placing a roller bandage in the arch to the inner side, dress the foot with a wet Dakin's solution and then forcibly produce hyperflexion of the foot with marked eversion in a plaster cast.

The purpose, as you can readily see, in applying this form of dressing is to build the arch up in such a satisfactory manner that the original and normal plane of the plantar surface will be retained as nearly correct as possible. The hyperflexion with eversion is for the purpose of throwing the shell like outer plate of the os calcis, which lies beneath the external malleolus, and the cast, when removed, will allow the foot to return to normal position, leaving excellent space for the action of the muscles and necessarily thereby reducing pressure on the nerve structures and tendons.

I am in favor in all cases of fractured heel, even where there is no apparent displacement to be determined, of relaxing the heel tendon and

reinforcing the arch for the first six weeks. In an open operation on the heel, my incision is by preference along the inner side of the foot running from the heel forward, just below the internal malleolus, this incision being necessary where the plantar portion of the os calcis has been torn away that gives attachment to the plantar ligament. Because as a rule in this event eversion of this fragment takes place forward and downward, and unless removed will cause permanent discomfort. Where there is a complete separation of the fragments, I reapproximate with heavy Kangaroo tendon by preference.

A CLINICAL STUDY OF LOBAR PNEUMONIA WITH SPECIAL REFERENCE TO PROGNOSIS.\*

FREDERICK TICE, M. D. AND  
R. F. HERNDON, M. D.  
CHICAGO.

During the last five years 3,439 cases of lobar pneumonia were treated in the Cook County Hospital, Chicago, with 1,225 deaths or a mortality of 35.7 per cent. According to the fiscal year, which ends December 1, they were distributed as follows:

Year	Number of cases	Died	Mortality Percentage
1911.....	918.....	356.....	38.8
1912.....	493.....	183.....	37.1
1913.....	600.....	208.....	34.6
1914.....	597.....	231.....	38.6
1915.....	831.....	247.....	29.7

The clinical material upon which this study is based consists of the 500 cases of lobar pneumonia admitted to the hospital during the period of four months from December 1, 1915, to April 1, 1916. In this group of 500 there were 201 deaths or a mortality of 40.2 per cent.

Both the prognosis and mortality in pneumonia are influenced and dependent on many factors. Some of these factors have been studied in this series and the results, so far as possible, will be presented graphically in the form of charts.

*Mortality as Influenced by Age:* To estimate this factor it was considered necessary to first determine the frequency of pneumonia at various

\*Read at the sixty-sixth annual meeting of the Illinois State Medical Society at Champaign, May 18, 1916.



periods of life and preferably in semi-decades. Age incidence increases from birth to the fifteenth year and then increases, reaching the maximum at forty-five years, to again decrease to old age.

Age incidence in pneumonia, however, does not coincide or parallel the mortality. In the first semi-decade, with a 40 per cent. mortality, there was a rapid fall to the 15-20-year period in which no death occurred, but from this time on there was practically a constant increase, reaching 100 per cent. at the 80th year.<sup>4</sup>

*Sex:* While there were more than three times as many males as females, 76.4 to 23.6 per cent.,

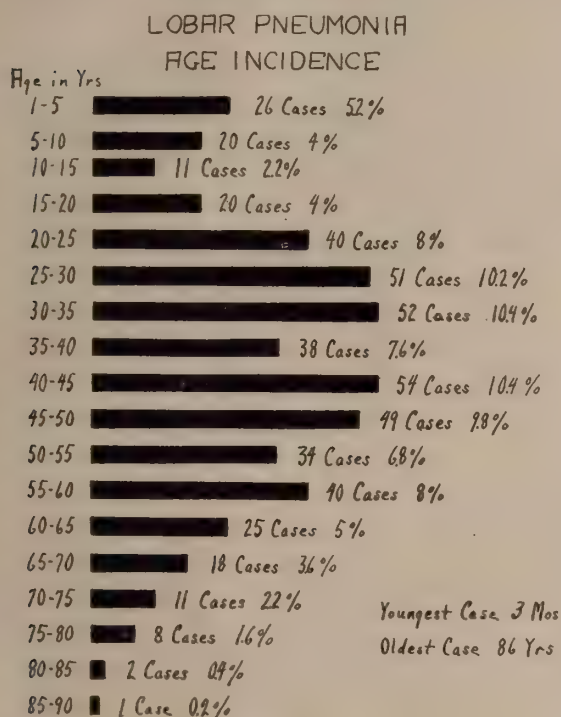


Chart 1.

the mortality was practically the same, 40.4 per cent. in the former to 40 per cent., in the latter.

*Nationality:* So far as could be determined, the nationality had little or no influence on the mortality. While it is true that the death rate was high in certain nationalities, the number of cases is too small to be of any importance. Then, too, other factors must be considered that may be of greater influence.

*Location and Involvement:* Of the lower lobes the right was involved more frequently, 30.2 as compared to 26.4 per cent., but the mortality was slightly higher with the left sided involvement.

## LOBAR PNEUMONIA AGE vs MORTALITY

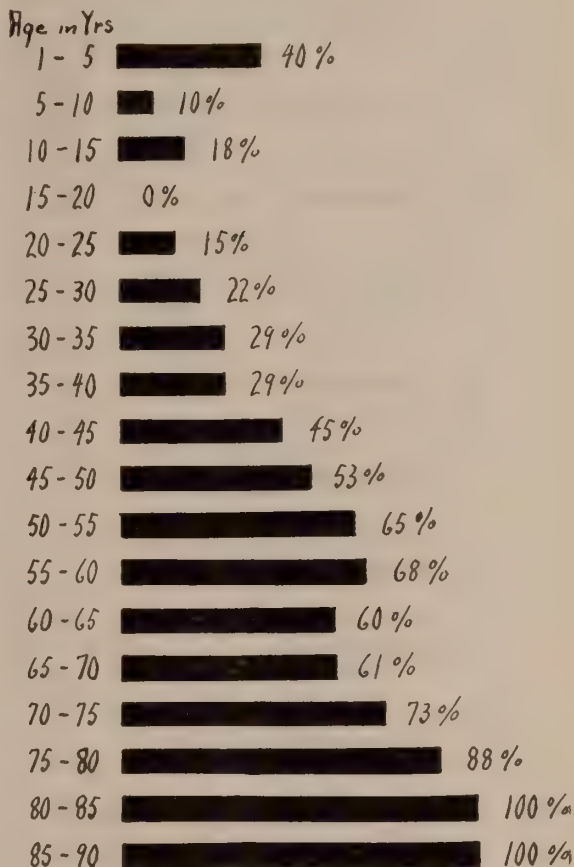


Chart 2.

An upper lobe involvement was more frequent on the right side, 8.8 as compared to 2.8 per cent., and with a mortality in the left upper involvements almost double that on the right, 57.3 compared to 30 per cent.

From this series there is practically little difference in the mortality of lower lobe pneumonias, while the upper lobe involvements are more

## LOBAR PNEUMONIA SEX

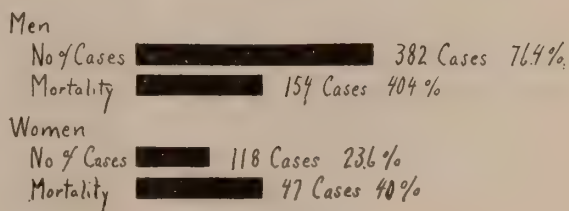


Chart 3.

## LOBAR PNEUMONIA NATIONALITY

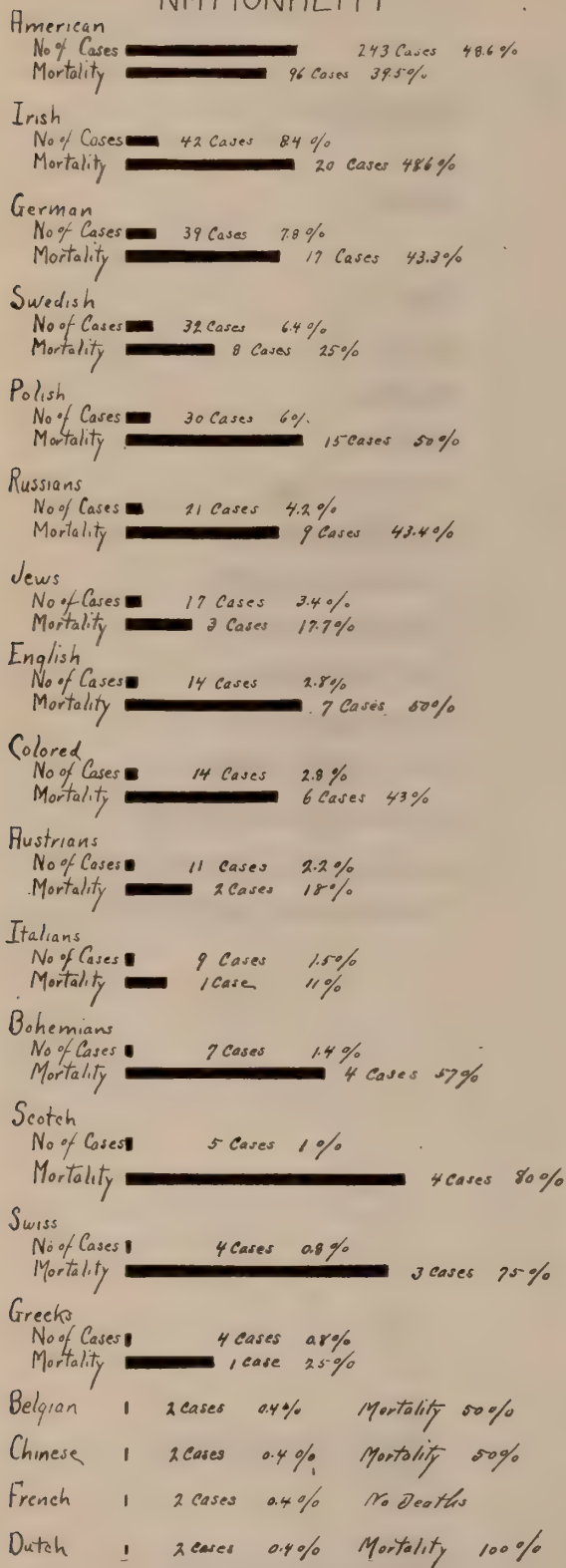


Chart 4.

## LOBAR PNEUMONIA LOCATION of INVOLVEMENT

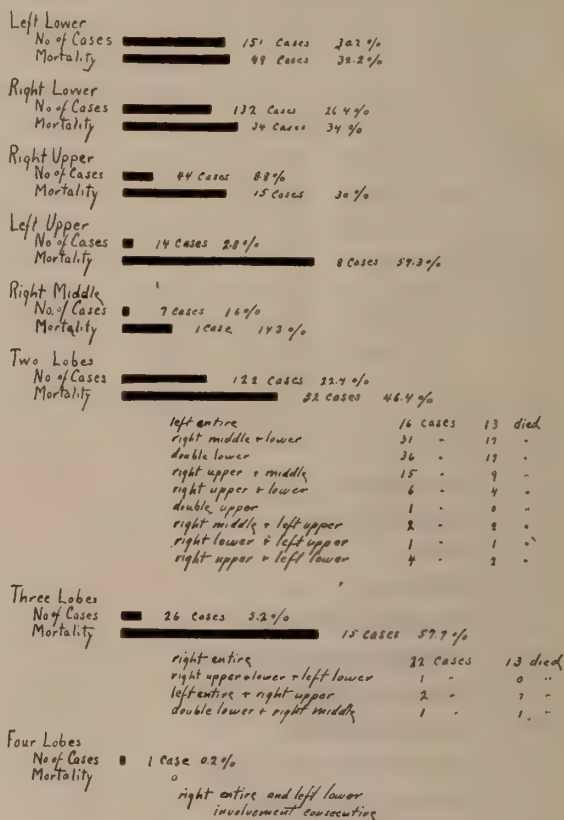


Chart 5.

## LOBAR PNEUMONIA ALCOHOL

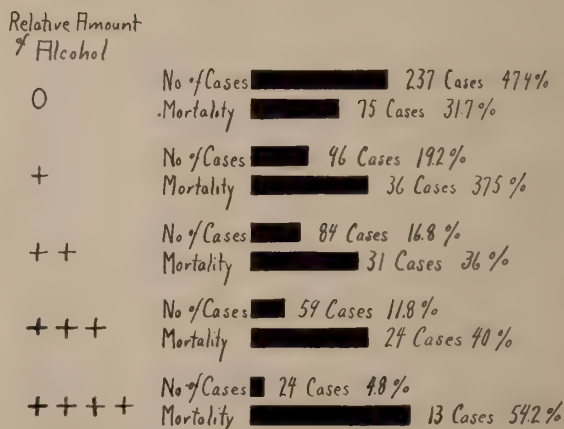


Chart 6.



fatal when on the left side. The same is true when a comparison is made between the upper and lower lobe pneumonias.

While it is generally believed that the extent of the pneumonia does not necessarily bear any definite relation to the mortality, a very opposite

### LOBAR PNEUMONIA PREVIOUS PNEUMONIAS

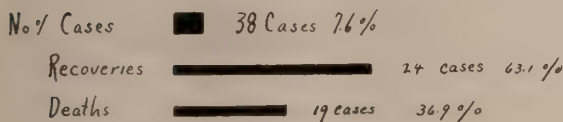


Chart 7.

conclusion is reached by a consideration of the cases with two or three lobes involved.

In 122 cases with two lobes involved, 52 died, or a mortality of 46.4 per cent. Of this group a double lower was most frequent, next in order of frequency a right middle and lower and then a complete consolidation of the left lung.

With three lobes involved there were 26 cases, of which 22 consisted of an entire right lung involvement.

In one case only four lobes were involved, the entire right and left lower, a migrating or consecutive pneumonia, with recovery.

**Alcohol:** In obtaining the histories, particular care was exercised, but it is a question how reliable the data is in reference to the use and the amount of alcohol consumed. Of the 500 cases 237 absolutely denied using alcohol and of these 75 or 31.7 per cent. died. Of the 263 ad-

### LOBAR PNEUMONIA HERPES

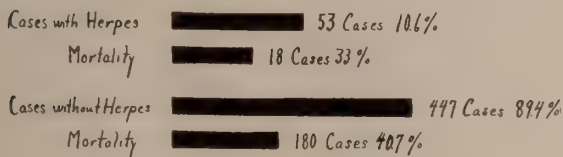
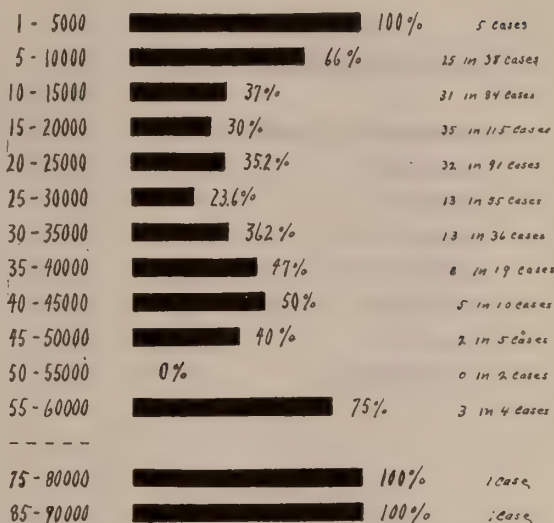


Chart 8.

mitting the use of alcohol in varying amounts 104 or 41.9 per cent. died.

In the group one plus is included those using beer, but no whiskey; two plus includes those using beer and averaging one whiskey daily; three plus includes those averaging two or three whiskies daily, while four plus includes those

### LOBAR PNEUMONIA LEUCOCYTES vs MORTALITY



lowest count 2500  
highest count 87000

Chart 9.

### LOBAR PNEUMONIA SYSTOLIC PRESSURE vs MORTALITY

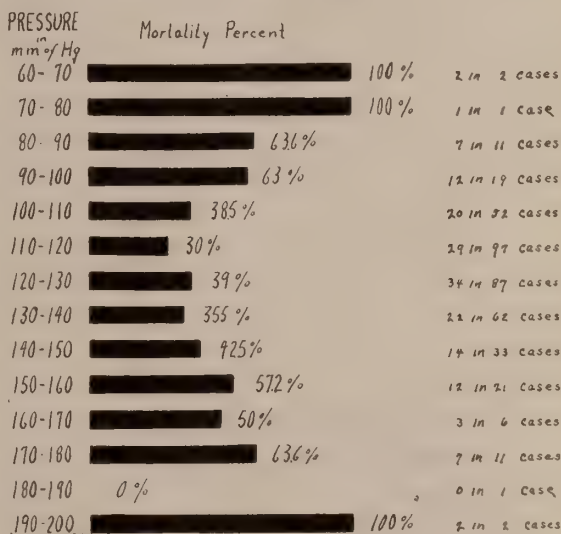


Chart 10.

using a greater amount. A 10.2 per cent. higher mortality occurred in the alcoholics. The highest mortality, 54.2 per cent., occurred in the four plus group.

**Previous pneumonia:** A previous attack of pneumonia is considered a predisposing factor to subsequent infection. Whether it has any influ-

LOBAR PNEUMONIA  
DIASTOLIC PRESSURE vs MORTALITY

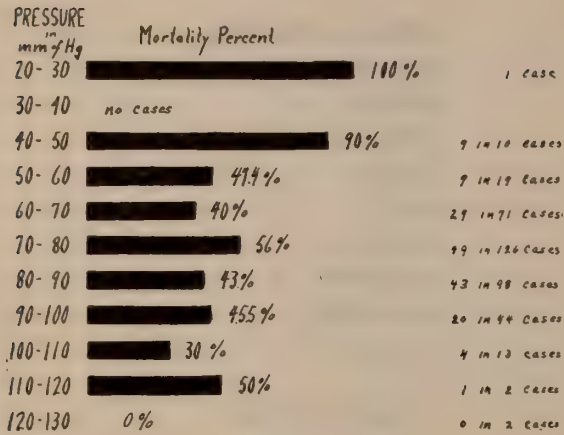


Chart 11.

ence on the mortality is doubtful. Only 38 cases or 7.6 per cent. gave a history of a previous pneumonia and all of these but a single attack. Of the 38 cases 19 died, or a mortality of 36.9 per cent.

**Herpes:** The frequency of herpes in pneumonia is well known and by some is considered a favorable prognostic sign. Only 53 cases or 10.6 per cent. presented herpes and with a mortality of 33 per cent., as compared with a mortality of 40.7 per cent. in the 447 cases without herpes.

**Leucocytes:** In all cases at least one and in most cases several counts were made during the course of the disease. The average was taken

LOBAR PNEUMONIA  
PULSE PRESSURE vs MORTALITY

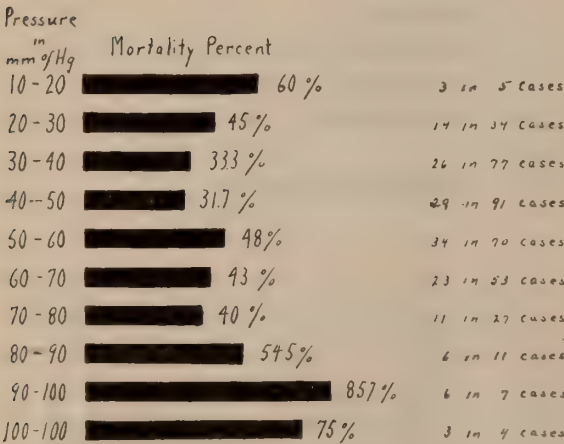


Chart 12.

LOBAR PNEUMONIA  
URINARY FINDINGS

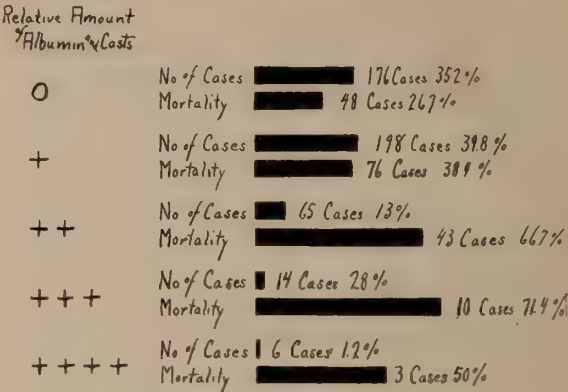


Chart 13.

LOBAR PNEUMONIA  
COMPLICATIONS

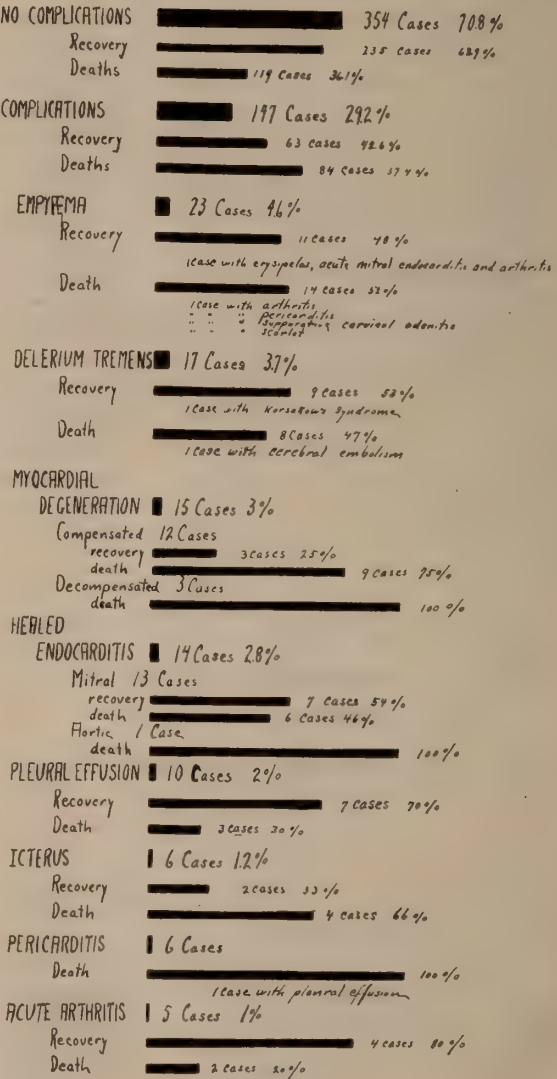


Chart 14.



where several counts were made and only those included that were made during the presence of the pyrexia.

Only the numerical increase or decrease is taken as a basis of comparison, as it was found impossible to draw any conclusion from the differential counts or the variation in the number of leucocytes during the course of the disease.

The cases showing a count of 25 to 30,000 had the lowest mortality, 23.6 per cent., and presented relatively the best prognosis. From

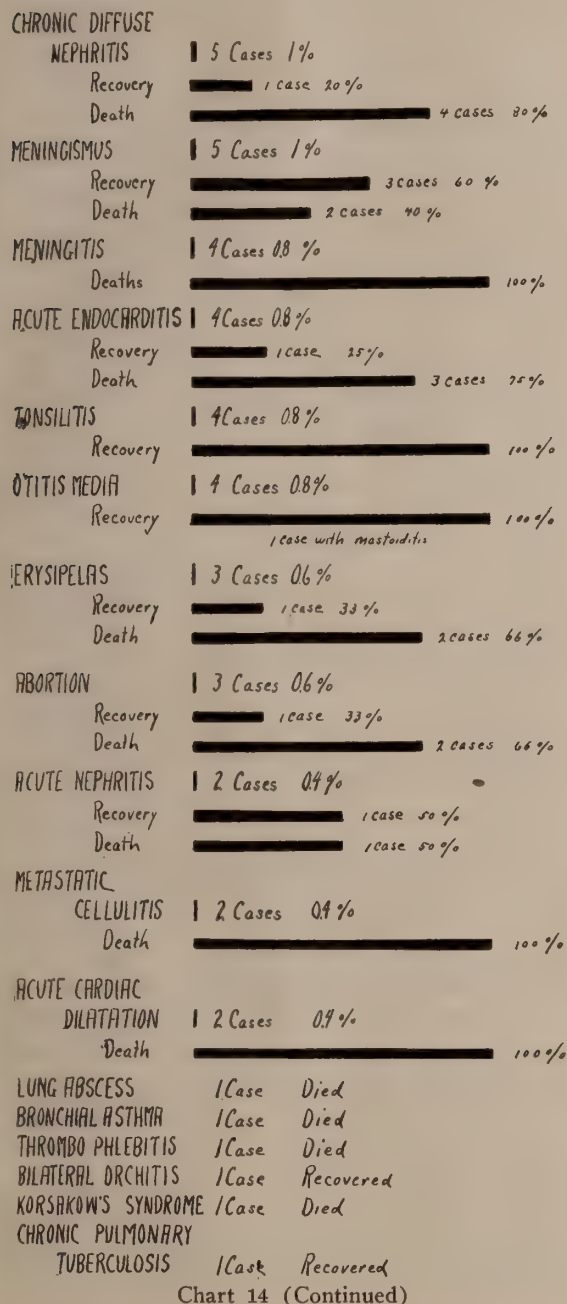


Chart 14 (Continued)

this point the mortality gradually increased up to 100 per cent. with either a decrease or an increase in the leucocyte count.

**Blood pressure:** The systolic and diastolic pressures, as well as the pulse pressure, were determined by the auscultatory method.

In 97 the systolic pressure ranged between 110 and 120 m.m. of mercury, of which 29 died, or a mortality of 30 per cent. With a fall or an increase in the blood pressure the mortality increased gradually to 100 per cent.

In 71 cases the diastolic pressure ranged between 60 and 70 m.m. of mercury, of which 29 died, or a mortality of 40 per cent. Below this pressure the mortality gradually increased to 100 per cent., but with an increase in the pressure the mortality was variable, due perhaps to influence of other factors.

In the group of 91 cases with a pulse pressure ranging between 40 and 50 m.m. of mercury, 29 died, or a mortality of 30 per cent.

**Urinary findings:** The chemical and microscopic findings are recorded in 459 of the cases. No albumin or casts were present in 176, of which 48 died, or a mortality of 26.7 per cent. In 283 albumin and casts were present in varying amounts, of which 132 died, or a mortality of 56.6 per cent.

**Complications:** The outcome in pneumonia is considerably influenced by the complications.

In 354 there were no recognizable complications, with a mortality, however, of 36.1 per cent. Of the 147 with one or more complications 84 died, a mortality of 57.4 per cent., practically double that in the simple pneumonias. Among the complications empyema was most frequent, occurring 23 times, with a mortality of 52 per cent.

It was found impossible to chart all of the factors of importance having an influence on the prognosis and mortality. Of the 354 uncomplicated cases 36.1 per cent. died. Death was due in practically all to a cardiac failure, confirming the statement of von Jürgenson: "Patients who die of pneumonia are killed by cardiac insufficiency." While this is true, the essential cause consists of a toxemia or pneumococcal septicemia resulting in structural or vaso-motor disturbances of the cardio-vascular system.

#### DISCUSSION.

Dr. E. J. Brown, Decatur: I think these statistics prove that the mortality statistics in the text-books

are governed by the hospital records. I am quite sure that the mortality of pneumonia in general practice is much less than 40 per cent. Most statistics give 25 per cent. as the mortality of pneumonia, which includes hospital statistics and these gathered from private practice. I know in the practice of physicians in the smaller towns, our mortality runs from 15 to 20 per cent. We have the most select cases. These hospital statistics generally include a great many delirium tremens and alcoholic cases; much more than we get in private practice.

I think private practice statistics show many more recoveries in children than in the general hospital such as Cook County. In fact, we know that there is no disease of childhood which is more satisfactory to treat than an acute lobar pneumonia in children from five to fifteen years of age. The mortality is about 5 per cent. There is no disease in which a patient gets alarmingly sick and gets well so quickly, in from 5 to 10 days, as in lobar pneumonia in children. We see, of course, many cases of empyema, and empyema is practically the one and greatest complication in general practice. If the empyemas are watched carefully they are generally easily recognizable, but I must say also in my work in the country and in consultation work, that the greatest error I find in general practice is the non-recognition of empyema. You are almost certain to know that you have empyema if you have a crisis and a subsequent rise in temperature, and whenever I get this I always put a needle in and operate on those empyemas at the earliest possible moment, and in children I operate without the resection of a rib and the recoveries of early empyemas are almost without any mortality.

I should also like to ask Dr. Tice what his experience has been in the interpretation of the Gibson Law in pneumonia? It has been very valuable to me. As you know, Gibson found that whenever the systolic blood pressure fell below the pulse rate, the prognosis was bad. As long as the systolic blood pressure kept above the pulse rate, the prognosis was good.

Dr. Tice. (In closing): The remarks of Dr. Brown in relation to variation in statistics is perfectly true. The hospital mortality records are comparatively higher than those in private practice.

In reference to the Gibson law which was not included in this series, we have observed a number and have already reported our findings, the result as I recall now, of something over 70 per cent. confirming the law; that is, the prognosis is good when the systolic blood pressure in millimeters exceeds the pulse rate per minute. Or where the blood pressure is below the pulse rate the prognosis is unfavorable.

Excluding the cases with chronic nephritis or some complication which naturally will disturb the ratio, we found that the law applied in approximately 70 per cent. of the cases.

At this time I wish to acknowledge the services of Dr. Herndon. To him is due practically all the credit of looking up the cases in reviewing these his-

tories, which was an enormous task, and also for making the charts. I want to acknowledge these services publicly and thank him for his part in the work.

## COMMUNITY NURSING.

H. K. SCATLIFE, M. D.

Junior Internist, Larkin Children's Home, Elgin; Member of Staff, Sherman Hospital of Elgin; Member of Teaching Staff, Sherman Hospital Training School for Nurses.

ELGIN, ILL.

In discussing the subject of community or visiting nursing the question naturally arises, What is it? The primary object of a visiting nurse service is to care for those ill enough to require the attendance of a physician and to restore them to health and working efficiency.

Under this service nurses do not remain in the home for an indefinite length of time. The length of the visit will vary from 15 minutes to one hour, depending upon the amount of treatment required. Why is the visiting nurse a community necessity? For the very obvious reason that most illness occurs among a class of people who cannot afford a full time nurse; further, many illnesses are of such short duration that a full time nurse would be a wanton extravagance.

As far back as 1870, the *British Journal of Nursing* took the stand that the establishment of a visiting nurse service is a valuable economic measure, because it lessens not only physical but financial and moral wreckage with its damaging reaction on society. For the reason that it is a community enterprise, therefore a public responsibility, the name community nursing has been suggested. A still better one is that suggested by Ella Phillips Crandall, i. e., "Public Health Nursing." One feature that must be emphasized, however (regardless of what we call the service), is not to attach to it the stigma of charity. It has been found and is acknowledged by practically all agencies engaged in this work that self-respecting and self-supporting citizens of a community prefer to pay a fee for nursing service even though the fee be a small one. The last decade has taught the necessity of doing away with pauperization, either community or individual.

*Organization*—It has been repeatedly demonstrated to the writer that this work is best handled when taken over by an organization which is either already in existence, or is formed



for the sole purpose of conducting a visiting nurse service as against control and support by a single patron. It is quite obvious that an organization that has for its membership individuals who are members of various churches, clubs, lodges and societies, will have many friends and co-workers. Further than this, it is possible for a society under intelligent leadership so to divide the work and responsibility among committees and sub-committees that a great deal more can be accomplished than could one or two lone individuals, no matter how enthusiastic.

To best administer the executive affairs of such a society, a board of directors, or a committee with similar powers, is usually the method of choice. It is frequently advisable to make each member of such a board the chairman of some committee or sub-committee. For an organization new in the work it has been found that an advisory board is frequently a valuable adjunct. When such a board is deemed necessary it may be made up of one or more representatives of the medical profession, the clergy and legal professions, a school teacher or representative of the board of education, business man, newspaper man and one or more active civic workers of recognized social prominence. Such a group would positively identify the activity as a community one.

*Committees*—In selecting the personnel of the different committees, much care and consideration must be bestowed. It is of paramount importance to consider the varying capacities and interests of each individual member. When starting the work it may not be necessary to have more than a committee each on finance, publicity, and nursing service.

The committee on finance bears a fundamental responsibility. To them falls the arduous task of devising methods and means for the raising of funds. Not that they should be held entirely accountable for securing *all* funds. That responsibility belongs to the society as a whole, but the finance committee must determine the "modus operandi" for securing these funds. There are many methods of raising money that the public take kindlier to than they do to "tag days," "violet days," etc., and they all have to be thought out and determined upon by the finance committee.

The publicity committee has a work that is no less important than the finance committee and

this consists in keeping the organization and its purposes before the people. This is done in various ways thus allowing the committee considerable latitude in accomplishing its purpose in a dignified and ethical manner.

The committee on nursing service, or nurses' committee, acts largely in an advisory capacity and is the buffer between the nurse and the society. Its greatest responsibility is shared with the board and is that of selection, promotion or dismissal. It handles complaints and compliments and provides for vacation, sick leave and opportunity of study for the nurse. It should meet frequently and regularly with the nurse to discuss and outline, or enlarge the work. This committee can also keep the records and compile and analyze the statistics that will accumulate, thus providing valuable community data for future work of sanitarians, physicians, and social workers. It will also fall to the lot of this committee to co-operate with the nurse in providing outings for worn out mothers and children, sending necessities and delicacies to indicated households and providing dental, medical and surgical relief for the needy, and organizing domestic science clubs and classes, etc., ad infinitum.

Before drawing this article to a close, I must say a few words regarding the nurse herself. Inasmuch as the nurse is the actual point of contact with the public, she must be eminently fitted for the place. No ordinary nurse is so eminently fitted. She must truly be an extraordinary individual. Over and above her professional requirements which must of necessity be of the best, she must be able so to see and present her work as to arouse and maintain the interest of the board and the community. She must realize that she is not only working for better health in the community, but that her work is also educational and deals with the social and moral fabric as well as the physical.

She must be tactful, diplomatic, and understand the perversions and reversions of human nature. If she meets all of these requirements, she will surely erect to her own memory a monument that in her own particular community at least, will rival that of Florence Nightingale herself.

229 National Street.

#### BIBLIOGRAPHY.

Visiting Nursing From a Business Organization's Standpoint. Lee K. Frankel, vice-president Metropolitan Life Insurance Company.  
Organization of a Visiting Nurse Association in a Small

Town. Mary S. Gardner, in *The Public Health Nurse Quarterly*, January, 1914.

Organization and Administration of Public Health Nursing. Ella Phillips Crandall, secretary National Organization for Public Health Nursing.

Welfare Work of Metropolitan Life Insurance Company. Report of 1915.

The Visiting Nurse Service. Published by Metropolitan Life Insurance Company.

Annual Report, Joliet Public Health Central Council, Joliet, Ill.

## CARRIERS OF THE GONOCOCCUS.

EUGENE HOLT EASTMAN, M. D.,

CHICAGO.

The medical profession is so frequently confronted with cases of gonorrhea, the origin of which, when carefully investigated, seems almost sporadic, that it has occurred to the writer to summarize data on the subject with a view of determining the mysterious source and placing the responsibility where it justly belongs. Physicians in general practice and genito-urinary specialists in particular, are frequently impressed by the disproportion in the number of cases existing in the male and female. Menge tells us that six women suffer from it to one male. During ten years which the writer spent in practice at Hot Springs, Arkansas, the number of women reporting for treatment was negligible. The fact remains that the difference in proportion in the number of cases in the male and female is so great that the women are much in the minority among the number of cases which report for treatment, while the greater majority terminate their cases on the operating table, they having advanced to that stage of seriousness where only the surgeon's knife will remove the damage. It has been variously estimated that from 70 to 90 per cent. of all operations in the female pelvis are due to gonorrhea.

The vagina is the least susceptible to gonococcal infection of any of the female organs. Many a woman who has been accused of having contributed this disease has submitted herself to an examination without receiving a positive diagnosis. This is the fault of the disease not the physician. Gonorrhea has an aptitude for inhabiting columnar epithelium and the vagina of the adult is paved with squamous cells, making it the one tract offering the greatest resistance to the gonococcus and the least susceptible to infection.

Columnar cells are present in the urethra and this field is frequently the site of infection, but a case of urethritis is usually secondary to

a cervicitis and so painfully apparent that it is possible for the patient to either make a definite diagnosis or suspect something quite serious and she will not be a willing partner to coitus while enduring this suffering. Therefore, it is the patient's own discomfort rather than the accusation of her male partner that sends her to the physician. A Bartholin abscess is of such frequent occurrence as to require little consideration and diagnosis is readily established. The glands of Bartholin are so constructed that they rarely thoroughly empty following incision and the rule seems to be that infection is imprisoned there only to produce at some future time a secondary abscess and a fertile area for infection of the male by expression of the contents during coitus.

We come then to the most common source of infection from the female, also the most difficult field for determining a diagnosis: the cervix uteri with the columnar epithelium of the internal os. This is, without doubt, the greatest carrier and distributor of the gonococcus in the female pelvis and the source from which most of the mysterious cases originate. We are all familiar with the viscid discharge so common to the cervix, yet no one will attempt to make a diagnosis of gonorrhea in the greater majority of cases merely upon inspection of this field through the speculum. Even after the microscope has been called to our aid the findings are frequently negative. The difficulty lies in the fact that the gonococci penetrate deeply into the interstices of the columnar epithelium lining the os and remain there, seldom making themselves evident in the discharge. We wonder then how, in view of these circumstances, infection can be imparted to the male. It is an interesting fact that during, and just following menstruation, the gonococcus is most active and the field for its proliferation at this time eminently fertile. We find the cause for this in the fact that the membranes are during this period congested and copiously supplied with blood. There is much epithelium denuded, and if the mucous discharge from the os be examined microscopically during or just following a menstruation, the gonococcus, if present, will usually be found. This explains why so many male patients report to us that they acquired the disease by having intercourse during the monthly period, and it is a popular belief among the laity that intercourse at this time will



invariably result in a gonorrhea. They consider the effect without reckoning the cause. The gonococcus once having installed itself within the external os, proceeds in time to become chronic and many authors suggest that a chronic case in the male will produce the same condition in the female. There may be little or no discharge and practically no discomfort. Women are so accustomed to attacks of leucorrhea that they give the subject little consideration for the discomfort of many specific cases is no greater than that of an ordinary cervical catarrh. And so they flourish entertaining their male friends, some of whom happen along at the right time of the month to acquire infection, while others escape.

The complications from a social or medico-legal standpoint which may arise from a case of gonorrheal cervicitis are numerous. A husband may infect his innocent wife and many a married woman has passed it to her paramour only to become highly indignant when confronted with the evidence and accusation of her offence. It is in these chronic cases that examination per speculum fails to establish a diagnosis, and the woman refusing to believe herself guilty continues the distribution of infection. A husband having recovered from his case may receive it back from her many weeks later. Complications arising from this state of affairs frequently end in the divorce court and the compliment fixation test has been used to determine the responsibility.

Endocervicitis does not go on to spontaneous cure as is the case in endometritis. The latter condition is probably terminated from the fact that much of the columnar epithelium becomes exfoliated and replaced by squamous cells, also owing to the change in blood supply to this part of the uterus during menstruation. If not arrested in this locality by natural resistance or or curettage, infection passes upward involving the tubes and ovaries and pus from a discharging pyosalpinx is a dangerous source of infection to the male also to the lower fields of the genital tract, especially the urethra. Thus it is readily understood how dangerous as a carrier of infection chronic gonorrhea of the uterus and its appendages may be. Once having invaded the field beyond the fundus, the case sooner or later passes into the hands of the surgeon and it is to him we must look for statistics or further information on the subject.

The evidence we have thus deduced, therefore, proves that the female is no less guilty than the male, but that the chronic condition of her infection, which often causes little or no discomfort, especially in cases of endocervicitis, makes of her a dangerous carrier of the gonococcus frequently ignorant of her condition. And it has been estimated that 95 per cent of chronic endocervicitis is gonorrheic.

Coming now to the male carrier we meet with more interesting peculiarities for discussion. The male urethra from the fossa navicularis to the bladder is an ideal culture tube for the gonococcus. The glans penis and fossa are lined with squamous cells and offer a great resistance to infection, but once having invaded the spongy and membranous urethra, proliferation goes rapidly on. Termination of these cases may be due to treatment or the fact that the columnar epithelium of the upper tract becomes denuded and replaced by squamous cells.

In its passage up the urethra the gonococcus finds numerous ideal lurking places in Littre's glands or the lacunae, one of which known as Guerin's valve is situated from one and one-half to two centimeters back of the glands frequently becoming quite large and crypt-like in which gonococci may become imprisoned and live indefinitely. This valve is merely a pocket or fold of the mucous membrane, but is a decidedly dangerous carrier of the gonococcus and difficult of access to treatment. Cowper's glands and the verumontanum have very largely contributed their share towards the perpetuation of this contagion. Forced backward in the usual way by the use of injections or instruments in the hands of the patient, infection soon passes to that one great storehouse of the gonococcus, the prostate gland. Watson declares that 60 to 90 per cent. of gonorrheics suffer from prostatic involvement and the evidence of reported cases seems to bear him up in this statement. So many of the chronic sufferers from this disease today have involvement of the prostate that it is one of the first places we look for the source of discharge or infection. Men who have had no symptoms of trouble for years frequently in the sexual excitement of matrimony open up old prostatic or other glandular lesions only to infect their brides and the number of operations performed nowadays upon young married women for infections

of the uterus and its appendages is evident proof of this dangerous source of transmission. The microscope will reveal gonococci in the mucous shreds of an old case and the appearance of a discharge within twenty-four hours after intercourse is usually the re-establishment of an old case. This is what is commonly known as a "strain" among young men.

In summing up the evidence already deduced and taking up further information we have still some interesting points to consider. We have seen that columnar epithelium has an affinity for the gonococcus and that the organs supporting these cells, especially in the female, produce an ideal soil for chronic latent disease. Another interesting point is the fact that the gonococcus selects for its habitat a neutral to mildly alkaline membrane. In the female, the secretion from the vagina is acid in reaction which with the squamous pavement of this canal makes an unsuitable site for the establishment of infection. It is not intended to state here that the vagina does not become infected under certain conditions; the inference is that it is not so frequent. In children, infection of the vulva and introitus is the rule.

In the male the urethra is usually bathed in an acid urine which militates against infection to some degree, but following intercourse this canal is bathed by an alkaline semen which neutralizes the field and renders it temporarily more susceptible to infection.

The gonococcus is non-motile, that is, it is not capable of autolocomotion, but we believe that it is accredited with a certain rotary-like motion which does not give it power to travel about. But in spite of this it travels, probably, through the assistance of mucous currents. Gonorrheics carry the diplococci in their glands or mucous cells in chronic form until such time as their resistance is lowered when there will follow a more or less severe exacerbation of the disease. We cannot call it a return for it is already present and the discharge is merely another symptom. Under artificial cultivation the gonococcus will decline in virulence after the thirtieth generation. The patient who has been its carrier for years acquires a tolerance for it or the strain becomes too attenuated to produce any visible effect, but let this same strain be passed to a second person and its virulence is at once revived, sim-

ilar to the phenomenon of encapsulation found in bacteriology.

The experiments of Wertheim with the gonococcus have given us some interesting information on the subject and furnish ample proof of the above findings. Making a culture from a case of two years' standing he attempted to infect the original urethra and met with failure. A clean urethra was readily infected with this culture and when pus from the latter was introduced into the original urethra there resulted a severe gonorrhea of five or six weeks' duration. It is peculiar that Wertheim's culture failed to reinfect the original urethra when we know that a woman may carry infection in the uterus or or os for an indefinite period without exhibiting very serious if any symptoms yet following childbirth or abortion will frequently develop a fatal gonococcic septicemia.

331 East Forty-seventh Street.

## SURGICAL TREATMENT OF ACUTE EPIDIDYMITIS.

CHARLES MORGAN MCKENNA,  
M. D., B. S., F. A. C. S.

Assistant Professor Genito-Urinary Surgery, College of Medicine, University of Illinois, Surgeon to St. Joseph's Hospital.

CHICAGO.

There has been much discussion regarding the surgical treatment of acute epididymitis without any definite conclusion. I wish to submit this paper and the results of a limited number of cases, worked out at St. Joseph's Hospital. Just a word about the anatomy of the epididymis and its surrounding structures. It will be remembered that the epididymis and testes are enclosed in the same sheath, namely: the tunica vaginalis. The nerve supply to these two organs is the same, being derived from the aortic and renal plexuses. Upon a close dissection, it will be found that the nerve endings are more superficial in the testes than they are in the epididymis. The area covered by the testes is far greater than that of the epididymis. Since these are the anatomical findings, we must take into consideration the pressure on the testicle as well as that of the epididymis. In acute epididymitis we find the beginning of a hydrocele or fluid around the testicle. All the fascias between the skin and the tunica vaginalis are upon the greatest tension. The tension is so great that the fascias can be



heard to make a crackling noise upon dividing them with a scalpel. Dr. G. Kolischer and the writer demonstrated this on a number of cases two years ago. Hence it is not enough to simply divide the fascias and open and drain the epididymis, but it is quite necessary to separate the fascias one from the other, and especially separate the tunica vaginalis from the testicle proper. If the wound were closed at this stage of the operation the patient would be greatly relieved of pain, as will be shown later in this paper. The question that always arises is, Is the patient made more likely to be impotent by opening the epididymis or not? I should always answer in the negative. It will be remembered from the anatomy that the epididymis is a canal or tube, made up of transverse chambers. When the patient is suffering with the above named pathological condition and after a careful dissection, the tube stands out very clearly so that the operator can easily puncture the posterior wall of the affected chamber without doing any injury to the small tubules coming off from the testicle. In a number of cases operated on for short circuit of the vas deferens, the lowest part of the epididymis showed the seminiferous tubules to be closed and this part of the epididymis to be a hollow tube without any spermatozoa; on further examination the tubules coming from the testes were found blocked. This of course was due to the infection at the time of the acute condition not being relieved by operation and nature had to absorb the pus within the lumen and as a result the above condition exists. Since this is the result, it was my reasoning that the patient would be less apt to be impotent if the pus were drained off before the stenosis could take place, hence leaving the tubules and main canal open into the vas deferens. Many patients with acute epididymitis, treated in the palliative way, afterwards are capable of passing living spermatazoa; this of course is due to the lessened amount of inflammation in the epididymis and the amount of free pus in the vas, which is absorbed by nature at the time of the infection. The only good reason for operating on this class at all is the excruciating pain that they suffer and the amount of pain is indicative of the amount of free pus in the epididymis and the

amount of inflammation surrounding the testicle. The following is the report of eleven cases treated in different ways for the relief of pain. The first four were treated by cutting down on the epididymis and putting a gutta-percha drain in the lumen; those four cases were greatly relieved of pain, but it was fourteen to twenty-one days before the entire swelling was relieved. In four cases the epididymis was exposed by careful dissection and the different fascias divided one from the other and the epididymis drained. In those cases the patients were entirely relieved of pain and the wound healed and the swelling disappeared within eight days. In two cases the dissection was made complete and the fascias separated from each other, and the epididymis was not punctured for two days. Both cases had immediate relief from general pain, but complained of a sharp toothache-like pain in the testes. In the last case the incision was made on the opposite side, allowing the free fluid to escape from the tunica vaginalis. In this case the patient was greatly relieved of pain, but not entirely so. Two days later, with local anesthetic, the epididymis was opened and drained and the patient was entirely relieved of pain. It may be well to mention here that doing what is commonly known as a blind stab operation is not at all to be commended, because it is quite difficult to do this operation and be sure to separate the posterior wall of the epididymis without plunging the knife into the tubules coming off from the testicle on the opposite side. To make a blind stab, even though the patient does get relief, is not satisfactory.

Conclusion: Surgical procedure is only necessary when the patient is suffering excruciating pain. When this procedure is carried out, it is quite necessary to divide the fascias so as to free the tension from the testicle as well as the epididymis. Patients are less apt to be impotent if the posterior wall is divided carefully and the pus drained off than if left to nature to absorb. A blind stab operation is that of a fakir and should not be considered. It is not enough to expose the epididymis and drain it, but all the fascias should be free.

It is not necessary to split the epididymis, but only the infected chamber, which stands out clearly.

25 East Washington St.

SYMPTOMS OF SEMINAL VESICULITIS.  
INDICATIONS FOR OPERATIVE INTERFERENCE. WITH CASE REPORTS AND RESULTS.\*

EDWARD W. WHITE, M. D.

Junior attending Genito Urinary Surgeon to the Alexian Brothers' Hospital.

CHICAGO.

In reviewing the literature on seminal vesicle studies, it is interesting to note the scarcity of material at our disposal and the limited number of men who have contributed. Seminal vesicle studies have only recently been given the center of the stage, not, however, due to a lack of interest, but due in all probability to an inferior knowledge of their correct pathology and also the difficulty of a rational surgical approach.

An article on seminal vesicles could not be considered in any degree complete were such men as Fuller, Squier, Belfield, Schmidt, et al., omitted. We are indebted to these early observers for our stock of knowledge on these subjects. Fuller's operative studies on vesicles date back as early as 1901, and the work advanced at that time forms practically the basis of our present operative procedure. The Squier classification of symptomatology, as "Pain," "Pus" and "Rheumatic" groups, will cover practically all cases that have as yet come to our service. The Belfield studies and operations on the vas have certainly lightened the path for future experimentation and have aided quite materially our vesicle work.

We have encountered no little difficulty in arriving at a good brief classification of symptomatology and pathology. The symptoms being varied, due to the anatomical proximity of the vesicle to the bladder, ureter and peritoneum. The classification primarily suggested by Fuller and Belfield had been quite satisfactory.

The symptomatology of seminal vesiculitis is exceedingly voluminous; many of the symptoms simulate cystitis, prostatitis, folliculitis and posterior urethritis. The wide degree of variability of symptoms is due to the fact that vesiculitis in the true sense has no distinct entity, but is virtually associated with a prostatitis, a folliculitis or a posterior urethritis.

SYMPTOMATOLOGY.

1. *Nervous Types.* In a review of our cases we have found that practically 90 per cent. were highly neurotic and of long standing. I remember one case in particular whose nervous manifestations were so prominent that he was of suicidal intent, completely unfit for work, and on examination very little pathology was revealed, although the vesicles were exquisitely tender. We are of the opinion that the state of nervous irritability is largely due to the wear and tear of persistent pain. We have had a large number of these cases under observation; some have been operated on, others treated in the usual conservative manner; the results are not gratifying, although we feel that many are relieved by the operative route, if only from a psychological viewpoint.

2. *Bladder and Urinary.* If you pause to consider the anatomical proximity of the vesicles and the bladder as has been demonstrated by Fuller, the cause of the bladder symptoms will be readily appreciated. We have seen in our routine cystoscopic examination of these cases a true "Seminal Vesiculitis Cystitis," if you please, in which the mucosa of the bladder overlying the vesicle and the trigonum was hyperemic, edematous, or a mild degree of trigone cystitis. A bladder so involved could easily account for such symptoms as irritability of the vesicle neck, suprapubic pressure, vesicle tenesmus and acute retention which is so commonly noted. The majority of cases have a typical mucopurulent discharge of a resistant character, which is unrelieved by the ordinary methods of treatment.

3. *Perineal and Testicle.* The symptoms referable to the perineum are referred, also are an exceedingly common associate of vesiculitis. Under this heading is pain in a variable degree ranging from only slight discomfort to sensations of dragging, drawing, feeling fullness and pressure. In one case where the perineal symptoms were quite pronounced the patient had been unable to assume his natural stride or posture for months, due entirely to constant perineal disturbances. Many of the urethral symptoms which occur at the close of urination are referred to the perineum. The testicular symptoms will be disposed of in brief, since many of the cases have had attacks of recurrent epididymitis and naturally complain of sensitive

\*Read before the Chicago Urological Society, May 25, 1916.



epididymi and drawing pains along the cord. Noble and Picker were among the first to arrive at the conclusion that recurrent epididymitis was due to disease of the vas and ampulla. In all cases the perineal and testicular symptoms were duly prominent.

4. *Sexual Symptoms.* If you pause to consider the true functions of the vesicles you will not be surprised to find many symptoms of a sexual nature. In the early stages of the disease, frequent erections with an excess of nightly pollutions are not uncommon, also as the condition progresses a gradual diminution in sexual strength and finally absolute loss of erections or impotency is noted. Painful orgasm, painful and incomplete erections, hemospermia, pyospermia, etc., are all common findings in seminal vesiculitis.

In the opinion of Schmidt, all cases of blood and pus in the ejaculate or blood and pus following vesicle massage are proof positive of a vesicle involvement and are worthy of surgical consideration. It is interesting to contemplate the improvement sexually in these patients following vesicle drain. Fuller has reported a number of such cases in which the sexual status was practically normal six months after operation and our results have been similar.

5. *Abdominal.* The abdominal symptoms are due to the peritoneal investment and may simulate acute appendicitis, ureteritis, ureteral colic or stone, and due to the close proximity to the bladder abscess formations with perforations into this viscus have been reported, also rupture into the peritoneal cavity by way of the recto-vesicle cul-de-sac. Pyemia has been known to follow a septic phlebitis of the adjacent venous plexuses. Pelvic cellulitis with marked suppuration is possible. Dull persistent suprapubic pain, constant pains in the lower lateral quadrants of the abdomen with a chronic urethral discharge should always suggest vesicle trouble. In reviewing our cases all have had one or more abdominal symptoms.

6. *Rectal and Anal Symptoms.* Rectal explorations will usually establish a diagnosis. Pathologically classified and named in the order of comparative frequency we have seen: 1st. The acute catarrhal type. The vesicle may be soft and almost lost in the folds of the rectum or greatly distended, tense and exquisitely tender.

2nd. Fibrous or sclerotic type. 3rd. Suppurative type or abscess cavities. 4th. Pan-inflammatory type. The prostate and vesicles are matted together in one composite mass of inflammatory tissue, with hardly a vestige of normal landmarks remaining. This type is productive of pains that are referred to the hypogastrium, loins, anus, perineum and sacro-iliac synchondrosis.

The sensation of warmth, fullness and itching about the anus is often complained of and is generally prominent in any form of vesiculitis, due to the association of the vesicle and prostatic plexus with the sacral and lumbar nerves.

Cowperitis and hemorrhoids will frequently, however, produce similar symptoms and should be ruled out.

*Rheumatic.* Rheumatic or joint symptoms are very uncommon in our experience. However, many cases have been reported by other authors. It is not difficult to understand from our knowledge of the anatomy of the vesicle and an understanding of inflammation in organs of a similar type, the *modus operandi* of systemic infection, the seminal vesicles, once invaded by pathogenic organisms whether they be the gonococcus, streptococcus, staphylococcus or colon bacillus, soon enter a chronic inflammatory state due to insufficient drainage. The vesicle sacs are characterized by marked chronicity with an attenuated form of virulence; infections may be harbored for years, periodically expressing septic material into the general circulation. The synovial membranes are areas of choice predilections due to their natural weakness for invading organisms. Squier states "The synovial fluid is lymphocytic instead of leucocytic, hence does not offer a good phagocytic power."

*Indications for operative intervention.* In the order of comparative frequency our cases have been attacked, first for the relief of pain; second, for the evacuation of a pus vesicle; and third, the removal of hard indurated fibrous vesicles of long standing and productive of much discomfort. The rule so forcefully advocated by Schmidt as "No undue haste need be exercised in advising operations until all palliative measures have been fully exhausted," has been religiously followed. We have had cases under observation for years, characterized by recurrent attacks of acute exacerbation which were finally freed of all

symptoms by persistent effort at palliative measures. Contrary, however, to the foregoing statement, some of our cases of long standing have failed utterly of any material benefit by conservative methods, but were absolutely cured following operations. Vesiculectomy is certainly the operation of choice in long standing cases with sclerotic vesicle, whereas, vesiculotomy and drain have been entirely satisfactory in pus cases and the acute catarrhal forms. In summary it has been found that the following classifications are all surgical possibilities:

1. Acute catarrhal with marked general and urinary symptoms.
2. Chronic fibrous, sclerotic, unrelieved by treatment.
3. Pus and blood after massage, or which persist in the ejaculate.
4. Sexual neurasthenia with a progressive diminution of sexual strength.
5. Tuberculous vesicles.

Vasotomy has been resorted to in selected cases as a preliminary step (like the suprapubic drain prior to a prostatectomy) and the results were only temporarily gratifying, particularly in the cases complicated by recurrent epididymitis.

Case 1. M. E., aged 39 years, married, Bulgarian, came under our observation at Michael Reese Hospital, Dec. 6, 1915. One attack of prethritis six weeks prior to examination. No luetic history. Present complaint started two weeks after his urethral infection when he developed an acute severe epididymitis and marked pain in perineum and anus, with difficult urination. These symptoms had persisted up to the date of our examination with increasing severity.

Examination. Temperature 102, pulse full and bounding, patient very septic in appearance, complaining of nausea and vomiting in addition to his urethral symptoms. Also acute retention, which was relieved by catheter.

Examination Genitalia. Profuse gonorrheal discharge very sensitive and infiltrated epididymis, with associated orchitis, also thickened and sensitive vas.

Rectal. Prostate enlarged, irregular and painful. Vesicles enormous in size, fluctuating and extremely sensitive. Culture following vesicle massage revealed a growth of staphylococcus and gonococcus. White count 28,000.

Treatment. Vesiculotomy and drain was performed with the evacuation of a large quantity of pus; two days following the operation all symptoms were alleviated. White count 15,000. Temperature 99, no retention and no discomfort. Thirty days later the patient left the hospital, state of general health satisfactory and perineal incision completely closed. The epididymis was still quite sensitive on firm palpation,

sexually normal and a rapid gain in health and strength.

Case 2. C. M., aged 45 years, married, American, has been under our observation a number of years with three or four attacks of urethritis dating back to 1908. His urethral attacks were all characterized by more or less vesicle irritability, persistent discharge, aching pain at glans penis. His condition was unimproved by the usual treatment although religiously followed in every detail. In June, 1910, a bilateral vasotomy was performed with only a temporary relief of symptoms. On examination in January, 1916, the patient had gained fifty pounds in less than eight months due to inactivity occasioned by his continual genital disturbances. He was extremely neurotic, phlegmatic and unfit for any mental or physical work.

Rectal Examination. Hard, indurated and exquisitely tender vesicles, epididymi; no pathologic change but very painful on palpation. The discharge following vesicle massage was heavily laden with pus and blood.

Treatment. A vesiculectomy was done in February and although the operative course was unusually protracted, the patient left the hospital four weeks later greatly encouraged over his improvement. When seen April 4 practically all symptoms had disappeared, sexually improved and he was attending his daily duties. The pain at the meatus remained tenaciously but was finally relieved by caput applications. His case was one of much interest due to his prolonged drawn out treatment and simply demonstrated the fact that vesiculectomy is the operation of choice in long standing and selected cases.

Case 3. M. T., aged 28 years, married, laborer. Presented for examination January, 1916. His past history gave one attack of urethritis six years before, this being complicated by epididymitis and prostatitis. He complained of swelling and pain in left testicle of six weeks standing, also severe sharp stabbing pain during ejaculation with a bloody ejaculate. The pain during intercourse would continue from one to two hours with marked depression following. He had not been exposed to any recent infection but complained of constant mucopurulent discharge, constant aching pains in the perineum and lumbar regions.

Examination. Urine, very cloudy with specks and shreds. Urethral smear was negative to gonococci but contained an abundance of bacterial flora and many pus cells. Prostate enlarged and regular in contour, very sensitive. The vesicles were large and atonic; acutely painful. The culture following vesicle massage gave colonies of staphylococcus and smear full of pus and blood. The left epididymus involved in inflammatory infiltration.

Treatment. Seminal vesiculectomy was performed in the usual manner as described by Schmidt in a recent paper and an uneventful post-operative course followed. The patient was up and about in twelve days after the operation and although still complaining of many of his former symptoms was dismissed in three weeks. When seen four weeks later he gave a favorable report; all pains had completely disappeared,



sexually perfectly normal, and a marked improvement in general health. It has been found that these cases do not clear up immediately after the operation, but nature must be given time to adjust itself.

Case 4. C. C., aged 38 years, married, chauffeur, examined November 8, 1916. He gave a past history of one attack of urethritis eighteen years ago, complicated by left epididymitis and stricture formation. Patient stated that he had never been entirely free from symptoms since first infection. He complained of a constant burning in the urethra with discharge, burning, throbbing and drawing sensations in perineum, and frequency in urination. Sexually vigorous but complaining of an aggravation of all symptoms following any sexual act.

Examination. A bilateral inflammatory infiltration of cord and epididymi. Rectal examination revealed hard and cord like vesicles which were extremely painful on palpation. The smear following vesicle massage contained almost pure pus and blood, culture gave colonies of bacillus coli urethroscopically, a decided congestion of posterior urethra, a hypertrophied and easily bleeding caput, very sensitive.

Cystoscopically. Congestion of vessels of bas-fonde, slight degree of trigone cystitis and unquestionably congestion of vessels of mucosa overlying the vesicles.

Treatment. Seminal vesiculotomy and drain, November 13, 1916. In ten days following the operation was noted a marked diminution in intensity of all symptoms. the drains were removed on the fifth day and the patient was fairly comfortable. He complained however of a loss of erection. His post-operative course was uneventful and was dismissed two weeks later with perineal incision practically closed. When seen two months afterward he complained of absolute loss of erections and desire, also areas of anesthesia extending over the left one-half of the scrotum and localized parts in perineum. His general state of health was splendid, no pain nor discomfort and all former symptoms had entirely disappeared. His sexual condition was only slightly improved when seen three months later following the operation; however, the areas of anesthesia had disappeared. We are of the opinion that his sexual status will return to normal in time, since regular caput applications have given some slight improvement.

Case 5. J. W., aged 30 years, single, American. He gave a past history of prostatectomy in 1903 and an external urethrotomy in 1914, also several attacks of urethritis. He came under our observation complaining of extreme nervousness, constant suprapubic pain, frequency of urination with dribbling, sexual weakness and a mass of irritative symptoms referable to the perineum and external genitalia. He had been under our care since 1907 with varying degrees of improvement and decline; highly neurotic and unusually sensitive. The usual method of treatment was conformed to with unsatisfactory results. In February, 1913, a bilateral vasotomy was performed with only a temporary alleviation of symptoms. Four weeks later his condition was exceedingly unfavorable, complain-

ing of an inhibition of sexual desire, with loss of erections and also muscular spasms in the perineum. His attempts at intercourse were followed by lancinating pain and bloody ejaculate. He became totally unfit for mental or physical effort, a complete nervous breakdown.

Examination. Cystoscopically congestion and contraction of the urinary surface, mild degree of trabeculation with severe trigone cystitis. External genitalia-negative as to morbidity but unusually sensitive to palpation, practically the epididymi and vas.

Treatment. Seminal vesiculotomy and drainage established February, 1915, and although the post-operative course was prolonged the results were satisfactory. In four months following his dismissal from the hospital his irritative symptoms of the perineum, rectum and epididymi were practically gone, the nervous irritability was relieved and his state of health improved. When seen about two months ago he had gained thirty pounds. Dr. Schmidt, who examined him cystoscopically at the time, reported a marked improvement in vesicle findings and a satisfactory condition per rectum. Persistent rectal douches and sitz baths had relieved the inflammatory rectal findings. This case was in all probability the most difficult that we have had under our observation and considering the magnitude of symptoms and pathology we feel satisfied with the results.

Case 6. L. B., aged 28 years, single, laborer. Patient developed an attack of acute retention during the course of an acute urethritis. Associated with the condition, he complained of deep peroneal pain and tenderness, pain on defecation, aching pain in inguinal regions and profuse gonorrheal discharge. He was very septic in appearance, temperature 103, pulse 120 and white count 22,000.

On examination per rectum, was revealed a large tumefaction, bulging into the rectal space. Immediate seminal vesicle drain advised. The vesicles were exposed in the usual manner and could be easily outlined through Dinnonvillier's fascia under great tension. A large quantity of pus was evacuated from each vesicle and parts drained. All symptoms were greatly relieved and normal urination was established within twenty-four hours following operation.

Case 7. A. L., aged 34 years, Italian. Seen at Alexian Brothers' Hospital. The patient gave a past history of five attacks of urethritis, of which two were complicated by epididymitis. He presented himself, complaining of urinary frequency with great pain during and after intercourse, also sharp stabbing pain during ejaculation.

Examination. The typical chronic mucopurulent discharge at meatus—a case of stricturous urethritis, his urine was turbid in all glasses and contained a quantity of spermatozoa. The third glass following vesicle massage was laden with pus and blood.

Rectal palpation revealed a pair of dense sclerotic sensitive vesicles, irregular in outline. Seminal vesiculotomy was performed. The post-operative course was uneventful and when seen eight weeks later after

his dismissal he reported intercourse entirely satisfactory and no urinary symptoms.

The question naturally arises after hearing the report of cases as to when is vesiculectomy indicated and when should a vesiculectomy be advised. In our opinion the vesicles should be removed intact in all cases of multiple abscesses with extensive destruction of the parts. Second, the cases of long standing with hard fibrous sclerotic vesicles that are productive of bladder changes. Third, that class of cases in which the vesicles and ampulla, due to proximity to ureter and surrounding parts, are productive of symptoms referable to these organs. While in our opinion (and in that of others) it is not advisable to remove the vesicles unless they are sufficiently pathologic—yet in selected cases of extreme nervous origin unaltered by the usual methods of treatment, seminal vesiculectomy has been entirely satisfactory.

Relative to seminal vesiculotomy we have considered all cases of spermatozemia, all cases of pus and blood in the ejaculate and following vesicle massage and the acute catarrhal and suppurative type. No tuberculous cases or cystic cases with concretions have as yet been operated on by us. In view of the fact that work on the vesicles is still in a primitive stage and the tabulated results of other observers so scarce, we have had no little difficulty in arriving at good operative classifications. The majority of these cases reported have been operated on within the last year and further observations will certainly reveal important information.

As a closing remark I should like to thank Dr. L. E. Schmidt for his kind co-operation and assistance in making this report possible.

#### BIBLIOGRAPHY.

1. Squier: Indications for Operations on the Seminal Vesicles. *Boston Med. & Surg. Jour.*, 1914, xx, 908.
2. Squier: Surgery of the Seminal Vesicles. *Cleveland Med. Jour.*, 1913, xii, 801.
3. Smith, E. O.: Anatomy and Pathology of the Seminal Vesicles, Urologic & Cutaneous Rev., v. 22, Feb., 1916.
4. Hyman & Saunders: A Clinical Résumé of Chronic Seminal Vesiculitis. *New York Med. Jour.*, 1913, xcvi, 65.
5. James & Shuman: Seminal Vesicle Calculi Stimulating Nephrolithiasis, *Surg., Gyn. and Obst.*, xvi, 1913.
6. Thomas & Pancoast: Observations on the Pathology, Diagnosis and Treatment of Seminal Vesiculitis, *Annals of Surg.*, 1914, ix, 313.
7. Fuller: Seminal Vesiculitis, *Jour. A. M. A.*, Nov. 30, 1912, p. 1961; *Jour. A. M. A.*, May 4, 1901, p. 1901; *Jour. A. M. A.*, Nov. 30, 1912, p. 1951; *New York Med. Record*, Oct. 30, 1909; *An. of Surg.*, April, 1905; *New York Med. Record*, May 21, 1904; *New York Post Graduate*, Oct., 1904; *American Jour. of Urology*, Dec., 1906.
8. Belfield: Irrigation and Drainage of Seminal Duct and Vesicle Through the Vas Deferens, *Surg., Gyn. and Obst.*, 1906.
9. Cabot: Some Suggestions in Regard to the Diagnosis of Seminal Vesiculitis, *Boston Med. & Surg. Jour.*, May, 1915.

10. Billings: *Archives of Internal Medicine*, April, 1912; *Jour. A. M. A.*, Sept. 13, 1913.
11. Schmidt: Vesiculectomy and Vesiculotomy, *Jour. A. M. A.*, Jan. 15, 1916.
12. Plaggemeyer: Tuberculosis of the Seminal Duct, *Jour. Mich. State Med. Soc.*, 1916, xv, 118.

## A RESTRICTED MILK DIET FOR THE REMOVAL OF DROPSIES.

N. S. DAVIS, M. D.,

Professor of Principles and Practice of Medicine, Northwestern University Medical School.

CHICAGO.

Necessarily the diseases which produce dropsy must be treated in order to prevent the accumulation of fluid in the tissues, but attention is now especially called to measures which help to remove it.

In the earlier years of my practice I often found dropsies difficult to remove, especially when the fluid was in the pleural and peritoneal cavities. Sometimes general edema disappeared as if by magic, as a rule, when it was due to cardiac incompetence, which could be lessened or corrected by heart tonics.

Time convinced me that many of the earlier failures to get rid of dropsical accumulations were due to lack of perseverance with the right treatment or to mistakes in the dietetic management of patients.

While improvement in such cases often can be effected in a week or less, very marked improvement or the disappearance of dropsy may require several or many weeks. It is, therefore, necessary to hold patients to a monotonous and restricted diet for a length of time which is tiresome to many of them. However, lack of perseverance prevents success.

Experience with exceptional cases taught me to use a milk diet for the relief of dropsy; although at the time the prevalent opinion was that a "dry diet" should be insisted upon. Patients are rebellious on a "dry diet," continued long enough to be useful, partly because of its monotony, but more because of thirst. The possibility of substituting a restricted milk diet for it became evident when patients were under treatment, who could not retain the foods of a dry diet, but could take milk in small quantities given frequently. In these cases not only did the dropsy disappear, but the patient did not suffer from thirst.

Gradually I learned to prescribe for the aver-



age case of dropsy of cardiac or renal origin one glassful (250 c.c.) of milk at 7 a. m., 10 a. m., 1 p. m., 4 p. m., 7 p. m., and 10 p. m., and at first to give nothing else.

Several years after adopting this diet I learned that a milk diet had been advocated by the Russian clinician Karell in 1866 though he gave only four glasses of it daily. Many others have doubtless learned to use a milk diet in these cases. I write this to urge its more general employment and more persevering employment.

When patients believe milk disagrees with them or they dislike it, a tolerance of it can be acquired by giving two to four tablespoonfuls (one to two ounces) every hour. When the taste of milk is more or less unpleasant to them, often they will take one part of cream and one of Seltzer water instead of milk with comfort. This mixture does not possess the characteristic taste of milk which is disagreeable to a few patients. It is very rare that a tolerance of milk can not be acquired providing it is given in tablespoonful doses, frequently repeated; and the digestibility of it or lack of repugnance for it which is acquired thus, often is commented on by patients and surprises them. At all times whether it is given every hour or every three hours not more than six glasses are given in twenty-four hours.

As a rule, improvement is noticeable in a few days and can be demonstrated to patients by their loss in weight or diminished girth, or increased elimination of fluid. Such demonstrations are the best incentive to them to persevere with the monotonous treatment. Thirst is almost never complained of, especially if milk is given frequently.

By the end of a week in most cases there is marked improvement. It is quite permissible then to give in addition to the prescribed amount of milk, fruit, fresh or preserved; though fresh fruit is to be preferred. Fruit adds a little to the food which the patient gets and somewhat to the fluid which they get, for up to this point in the treatment of these cases water and other fluids than milk are forbidden, but fruit is chiefly useful because it varies the patients' diet and gives them agreeable flavors which they crave. It makes the continuous administration of a "salt free," or to express it better "salt poor," diet possible. There is enough improve-

ment in the average cases so that at the end of ten days or two weeks other food can be permitted, but not more fluid. If the condition of the kidneys does not forbid more albuminous food, one or two eggs can be given with the milk or separately, being boiled or poached; or farinaceous foods such as rice, corn-meal or corn-starch or farina or spaghetti, or bread, but these foods should contain no salt or a minimum amount. Ice cream is often grateful and can be substituted for milk. Sugar and candies or fruit jellies are unobjectionable provided a patient's digestion is good enough to manage them.

The quantity of food and especially of fluid should be kept small until dropsy is gone and has been undemonstrable for a week at least, then foods may be gradually varied still more and increased in quantity, but patients should be taught to maintain an abstemious diet for a long time.

A patient who is very feeble and who needs more fuel than the restricted milk diet affords can be given cream and milk or cream diluted. Six glasses of equal parts cream and milk furnish approximately 1,850 calories and the same amount of whole milk, 900 to 1,000 calories. Six glasses of equal parts cream and seltzer will furnish approximately 1,400 calories or of extra heavy cream 2,000 calories. For a patient quiet in bed approximately 2,000 calories is sufficient. Six glasses of whole milk is an insufficient diet for a man and should not be maintained long except as an urgent measure. The mixture of half cream and half milk is the best, although cream and seltzer in equal parts will answer fairly well. Milk or milk and cream mixed in the amounts prescribed does not, however, make a well-balanced ration. It is chiefly deficient in carbohydrate and least in protein. A heavy cream mixture may contain an excess of fat. If the addition of an egg is permissible, it will add approximately 80 calories and 6.7 grammes of protein to that furnished by the milk. Fruit adds little to the nutriment, but does help greatly to vary the diet and give it an agreeable flavor. For instance, an average-sized apple furnishes 70 calories and a banana 125, a helping of blackberries, raspberries or strawberries from 40 to 60 calories and an orange or grapefruit 100 to 150; one cube of sugar 30 calories and one tablespoon of honey 100. The fruits add water to

the diet, an apple or banana 95 grammes of water, an orange 150 grammes, a helping of berries from 80 to 100 grammes, but honey, though it furnishes many calories, adds only about 5 grammes of water to the diet, and lump sugar none.

The good results obtained by the restricted milk diet are probably due to several factors: First, to the small quantity of fluid permitted a patient; second, probably to the salt-free diet, which leads to elimination of salt and with it of fluid from the lymph spaces where it has been stored. Third, often in these cases abnormal fermentation in the gastro-intestinal tract generates irritants to the kidneys and arteries, affecting elimination and increasing blood pressure. An exclusive milk diet limits or changes this so that such irritants are no longer generated in appreciable amounts. Fourth, a melting of body proteins occurs, but whether this is important is not yet known. The first and probably the second are the most important factors leading to the removal of fluid.

Martin Fisher claims that salt in the blood and tissues does not produce or help to produce dropsies, but helps to prevent them. However, the experiments and observations of very many clinicians have shown that the amount of dropsy is usually correlated with the amount of salt retention, and that withholding salt will hasten the absorption of dropsy and its administration will again increase it; experiments which I have repeated and have confirmed several times.

It is as important for patients to keep quiet in bed or on a couch as to have their diet rightly prescribed. Often, especially when there is fluid in the abdominal cavity, dropsical patients can not lie down with comfort. But that they stay in bed, even though they must use a back-rest and sit nearly upright, should be insisted upon. Patients who have believed for days that they could not stay in bed are surprised that by the end of the first twenty-four hours of treatment they find themselves lying, or at least semirecumbent, and in one or two days more comfortably sleeping in a recumbent posture. This ability to lie down is usually the first sign of improvement, although if a patient's weight is taken daily a diminution of it will be found coincident with the ability to lie down. Often a distinct diminution in the circumference of calves

or thighs or abdomen can be demonstrated every two or three days. Sometimes before a diminution in the size of leg or body, a lessening of the density of the edematous tissues is demonstrable. The pulse also becomes slower, softer and when irregular less so. The urine increases in amount as do also the chlorides in it. If a patient is purged copiously, the urine may not at first be noticeably increased, although the elimination of chlorides is.

Rest in bed should be persevered with until there has been no edema for several days and until the heart is nearly or quite normal in rate. When sitting up and moving about is permitted, it should at first be for a short time only and, if the edema does not return, gradually for longer times.

The diet prescribed is so restricted that much exercise can not be taken safely. Moreover, when disorders of the heart and circulation are found in these cases exercise may aggravate them.

Although rest and a restricted milk diet are necessary for the treatment of these dropsies, free elimination of fluid must be provoked. This can be done by giving a purgative or by causing diaphoresis or diuresis.

With rare exceptions purgatives are all that are needed and are most efficient. As copious watery stools are needed and as it is desirable that medicine be given without additional water it is best not to give salines. Elaterium (Cluttermucks) answers well. A quarter grain (grammes .015) night and morning at first and afterwards a quarter grain or less at night only is usually sufficient. The drug rarely disturbs the stomach. However, to prevent its doing so, when it is given only at night, combine with it two to four grains (grammes .1 or .2) of chloretone, which will by its anesthetic properties lessen the irritability of the stomach and will insure sleep.

Diaphoresis is rarely needed unless there is threatening uremia. Alkaline diuretics do not do much good when anasarca is very extensive or until by other means it has been lessened somewhat. When they are required it is best to give them so that the total quantity of fluid taken will not be increased. They can be given in milk, but are so apt to impart to it a taste which is not agreeable and, therefore, more



quickly make the patient rebellious against the prescribed diet, that it is not well to administer them in that way. Sodium bicarbonate can be put in capsules or tablets of ten or twelve grains each and administered after or with the milk without addition of water.

When the heart is fast and weak or irregular, digitalis, strophanthus, theobromine-sodiosalicylate and the allied cardiac tonics and diuretics can be used advantageously.

While in the treatment of these cases drugs are often needed, without a suitable restriction of diet frequently, they will not eliminate the dropsy. In my experience a restricted milk diet is efficacious and generally better tolerated than any other.

The following summary of cases will illustrate the management of such patients:

Case 1. A young woman from northwestern Michigan had well marked chronic diffuse nephritis, extensive edema and mild uremia, voided 800 c.c. of urine in 24 hours, containing 15 per cent. of albumin and 1.5 per cent. of chlorides. She was put to bed, placed upon a milk diet, and given cathartics and alkaline diuretics. The daily elimination of urine steadily increased, so that two weeks after she came under treatment she voided 1,500 to 2,000 c.c. daily. The chlorides also steadily increased so that at the end of the first week they were 2.5 per cent.; at the end of another three days were 4 per cent., and at the end of two weeks 6 per cent. During the following three days they varied between 6 and 8 per cent. Just in proportion as the elimination of chlorides increased, the urine increased and the edema lessened and finally disappeared. After the first week of treatment an exclusive milk diet was not maintained; she was allowed breads, cereals, many vegetables and fruits as well as milk.

Case 2. In June, 1906, F., cook in a restaurant, aged 33 years, a thin, pale, small man with abdomen distended by fluid, and legs and feet edematous, came under observation and later under treatment. The superficial abdominal veins were prominent. Ascites had existed for three months. He had been tapped twelve days before and a "bucketful of fluid withdrawn." The upper border of his liver was at the nipple line. Cardiac dullness extended one inch to the left of the nipple. His pulse was 100, regular and tense. His urine, dark amber, of specific gravity 1.022, did not contain albumin or sugar, but did contain much indican. His nose had bled often. He did not complain of gastric distress, but his appetite was diminished and his tongue coated. There were no hemorrhoids and he was not jaundiced. He never had had severe abdominal colics. His sleep was good. He had drunk heavily of whiskey and beer for years. Early in July he began treatment for ascites, due to

cirrhosis of the liver. By the 20th of July there was little edema of legs and feet.

A month after he came under treatment there was much less ascites and only a trifle of edema about his feet. The liver then could be palpated. Its surface was rough and hard and it was enlarged. His bowels were kept loose. A week later his abdomen was scarcely distended, though a small amount of fluid could be demonstrated in it. His pulse was 102, hard and of medium size.

During the next few days the patient's abdomen became a little more distended, and edema reappeared in his feet. The pulse was softer and quicker. The urine was dark and contained bile. Appetite was less. There was no fever.

Two months after he came under treatment there was no ascites and no edema. He felt stronger and better. A month later there was still no ascites. The pulse was from 90 to 95, regular and stronger. Two weeks later the pulse was 78 and the patient was doing well in all ways.

Three months later he felt strong and for six weeks had been doing full work. He had gained flesh.

Two months later he went to Italy and while away began to drink wine and beer. About ten months after he first came to me and a month after returning from Europe I found once more a little ascites. A milk diet and the medication formerly used was prescribed again. A week later no ascites could be found and he felt better. During the next ten days he gained five pounds on a more generous diet.

A year after he first came under treatment, the liver was as large and rough as before but there was no ascites and he continued to do full work.

When this patient came under my care after his second visit to me, I directed him to keep his bed and to avoid walking even about the house more than was necessary. He was directed to take a glassful of milk every three hours from seven in the morning to ten in the evening and no other food or fluids except a swallow of water, if he wished it. At the same time hexabethylenamin was given in five grain (grammes .3) doses three times daily and at bedtime one-tenth grain (grammes .006) of elaterium (Clutterbuck's).

After a few days he was permitted to eat fruit in addition to the milk. After a week and some evident improvement, he was given eight glasses of milk instead of six.

About three weeks after he came under treatment, to vary his diet, which was becoming monotonous, he was allowed bread or crackers or a dish of cereal once daily. About two weeks after he began treatment, one-quarter grain of powdered strophanthus was added to his medication four times daily. After this gradually his pulse became slower and stronger and the edema lessened more rapidly.

Very gradually his diet was varied more, though he was urged to make milk the staple and to eat only a trifle of other things. Moreover, care was taken that the diet should be one poor in salt.

When, as happened, ascites and edema increased slightly after being nearly removed, a strict and restricted milk diet was temporarily resumed.

This patient lived for six years, after a full development of cirrhosis of the liver with ascites and edema, and for five and one-half years did full work.

Case 3. J. L., bartender, aged 62 years, seen first in October, 1910, noticed three weeks before that the abdomen was enlarged. When examined it was greatly distended with fluid and the abdominal veins were prominent. There was little edema about his ankles. His pulse was full, strong and 90. His urine, dark amber, of specific gravity 1.025, contained neither albumin nor sugar. His heart was normal in size and its sounds were normal. The patient was constipated, but did not complain of gastric discomfort.

He was urged to keep his bed and was limited to six glasses of milk daily for food. He was given a capsule containing hexamethylenamin, five grains (grammes .3) and extract of digitalis, one-fifth grain (grammes .012) three times daily, and elaterium (Clutterbuck's) one-sixth grain (grammes .01) at night.

A week later the abdomen was no longer tensely distended, but it contained considerable fluid. The liver could not be felt, but percussion showed that its upper border was at the normal point, and that it was about two inches wide on the parasternal line. The pulse was soft and 90. The abdominal veins were still full, but less so than the week before. The patient was very hungry and therefore was permitted eight glasses of milk daily, and fruit and boiled rice once daily.

A week later only a trifling quantity of fluid could be found in the abdominal cavity. His liver was demonstrably narrow and its undersurface rough and not tender. The pulse was still 90.

The patient's menu was increased by the addition of bread without butter, but with fruit-jelly, if he desired it, corn-starch and tapioca pudding, blanc-mange and one egg without salt.

A week later there was no ascites, the pulse was 85, and the patient felt stronger and looked better.

Five weeks after the patient was first seen there was no ascites; the pulse was 78 and strong. He felt well.

This patient was seen at intervals for six months, during which time the ascites did not return. He resumed his work and felt as strong as when in usual good health.

The change to a general diet was made slowly and an abstemious diet was long maintained. The digitalis was stopped when his heart became normal in rate. The elaterium was stopped soon after the ascites disappeared, but other laxatives were needed from time to time.

Nearly three years after this patient came under treatment, I heard from a friend of his that he was well and working steadily.

The combined cardiac and renal cases are often the most stubborn. If they are also uremic

it is frequently impossible to keep them quiet or steadily upon a diet. Nevertheless if the regime already described is kept in mind and used whenever possible success will frequently be attained.

Case 4. A patient who had been obese for years and was still very large, though forty pounds lighter than three years before, had a greatly dilated heart. The apex was 16 c. m. to the left of the midsternum and the right border 6 cm. to the right of it. It was quick and very irregular. His systolic blood pressure was 190. His urine contained albumin, hyalin casts and was scant in amount. Its specific gravity was 1.018. His legs were very edematous, his hands and face slightly so and fluid in the abdomen reached the umbilicus. He was constantly somewhat dyspneic and at times painfully so or disturbed by Cheyne-Stokes respiration. At night he was sleepless and was often delirious. The mental disturbance made it impossible to keep him in bed and at rest, therefore improvement was not steady for many weeks, his symptoms fluctuated between better and worse. However, about two months after the examination described, when the uremic symptoms disappeared and he could be kept quiet and upon a restricted milk diet, his heart began to improve and his edema to disappear. At the end of the third month there was no edema, his urine was normal in quantity and free from albumin, but his heart was about 12 cm., wide, slow and irregular. During the next month he remained free from edema and his heart became regular. This case is briefly described not because the result of treatment was brilliant but because it illustrates what can be done by persevering along proper lines.

7 West Madison Street.

---

## NEPHRITIC CRISIS.

L. M. BOWES, M. D.,

CHICAGO.

Nephritic crisis may be defined as the sudden and rapid disappearance of edema in acute nephritis, accompanied by polyuria.

At first we have the usual symptoms and urinary findings of an acute parenchymatous nephritis. The condition proceeds, with gradually increasing edema, until the patient is in a very grave condition, when suddenly, regardless of the course of treatment, the urine becomes excessive and the edema disappears completely within a few days, leaving cutaneous "striae atrophicæ" especially prominent on the lower extremities.

There is very little to be found in the literature on this subject. I was able to find five cases recorded of young men, but none of women.



F. Parkes Weber<sup>1</sup> reported a case in a man, aged 26 years, with acute nephritis and dropsy which was excessive and lasted for months. The edematous condition began to subside and disappeared within a few weeks.

The same author<sup>2</sup> reported a case of a man, aged 23 years, with acute nephritis with dropsy for nine months which disappeared within a week's time. And he records a third case of a male, aged 23 years, at the German Hospital, under the care of the late Dr. Furth, with the disappearance of ascites and edema within three days' time.

H. D. Rolleston and J. Attlee<sup>3</sup> reported a case of "extraordinarily rapid diminution of renal dropsy under citrate of caffein." A man, aged 36 years, was intensely anasarcaous, "the abdomen was enormously distended, the skin was tense and there was much free fluid in the abdomen. There were signs of double hydrothorax. The heart findings were negative. The patient lost his edema and 64½ pounds in weight within sixteen days—i. e., an average loss of four pounds a day."

H. D. Rolleston and F. L. Golla<sup>4</sup> reported a "Case of Edema with Resolution by Urinary Crisis" in which the patient was a man, aged 27 years, who lost fifty-nine pounds in weight within four days, coincident with the passing of large amount of urine with the disappearance of the edema.

"The amount of urine suddenly increased from 48 oz. in the 24 hours to 98 oz., and on succeeding days was 112, 166, 180, 160, 204, 112, 138 oz."

To these I wish to add two cases in which the acute nephritis lasted several weeks and the dropsy disappeared suddenly and coincidentally with polyuria.

The first case was that of a woman, Mrs. G., 46 years of age, who had acute parenchymatous nephritis with increasing edema for two or three months.

When examined on May 6, 1913, the patient was found to be suffering with intense anasarca and there was complete anuria for three days. The face was so

swollen that the eyes were nearly closed. The skin of the upper and lower extremities was very tense. The heart was laboring but presented no organic lesion and was not dilated. There were signs of double hydrothorax and pulmonary edema. The abdominal wall was edematous but no free fluid could be found in the abdominal cavity. The bladder was found empty.

Previous to this time the patient had received about every diuretic treatment without effect. Hot sweat baths were applied to the lower extremities by means of pouring alcohol on hot bricks covered with flannel and placed around the limbs which were then wrapped in a flannel blanket. These sweats were very effective. On the evening of the sixth day of the complete anuria, the kidneys began to secrete and the amount of urine passed during the following three days was excessive, the edema disappearing completely at the same time leaving numerous "striæ atrophicæ" especially marked on the lower extremities.

The urinalysis showed albumin, blood and pus cells, hyaline and granular casts and squamous cells.

The patient was allowed a moderate amount of fluids. Salt was eliminated.

On June 13 and 28 the urinary findings were negative. The patient was working out in the fields inside of a month and at the present date has had no recurrence.

The second case was that of a woman, Mrs. K. O., aged 79 years, who had complained of difficult breathing since January 6, 1914.

The examination, on January 10, showed a puffiness around the eyes, edema of the hands and extreme edema of the feet and ankles. She was compelled to sit up to breathe. The urine was very scanty and contained albumin.

Fluids were restricted and the chlorides eliminated. No treatment seemed to bring any relief. The edema gradually increased for six weeks extending above the knees and the skin became so tense that I considered puncturing them to relieve the tension. But hot alcohol sweats were used and profuse perspiration followed. The urine became free and the edema completely disappeared within two days time, leaving marked "striæ atrophicæ" on the lower extremities.

We are still in the dark as to the cause for this sudden and rapid disappearance of the edema coincident with polyuria. In the first case the anuria might have been caused by a toxic action on the urinary cells, but probably was the result of an acute congestion or edema of the kidneys, thus forming a mechanical obstruction to the flow of water. When the congestion or edema subsided sufficiently to allow the separation of water, as the blood flows through the capillaries of the medulla, the obstruction was removed as shown by the disappearance of the edema with polyuria (J. R. Bradford).<sup>5</sup>

1. F. Parkes Weber: St. Bartholomew's Hospital Reports, London, 1898, XXIV, 303, and cited in International Clinics, Series 26, I, 98.

2. F. Parkes Weber and Hans Schmid: International Clinics, Series 26, I, 89.

3. H. D. Rolleston and J. Attlee: Lancet, London, 1905, II, 1394.

4. H. D. Rolleston and F. L. Golla: Brit. Med. Jour., 1908, I, 330.

5. J. R. Bradford: Lancet, July 16, 1904.

In the second case the oliguria may receive the same explanation or "plugs of mucus may block the urinary tubules and cause an obstruction" (A. R. Elliott)<sup>6</sup>. And when these plugs of mucus are removed, the obstruction gone, the kidneys again resume their normal function. Anything that will suddenly remove the cause of obstruction or re-establish the cardio-vascular-renal balance may cause the condition of "Nephritic Crisis."

6031 W. Circle Ave.

### A CASE OF BICHLORIDE OF MERCURY POISONING SUCCESSFULLY TREATED.

MEYER S. PEDOTT, M. D.

Formerly Associate in Medicine, Chicago College of Medicine  
and Surgery.

CHICAGO.

The purpose for presenting this paper is to bring before the reader a treatment of bichloride of mercury poisoning whose deadly effects and complications are well known to the medical profession.

While I do not claim to be the originator of this treatment, yet with a few modifications the author of this paper succeeded in saving a case that looked in all probability that it was going to terminate fatally.

On September 13, 1916, Mrs. F. was in a hysterical condition and quite nauseated, but vomited very little. This was followed by a burning pain along esophageal tract and stomach and she also had a rapid and feeble pulse. In trying to obtain a history of the case, I learned from one of the neighbors who was present at that time that she drank out of a glass containing some blue liquid, a part of which was later found. By the color of that liquid I immediately suspected bichloride of mercury and to corroborate my suspicions sent the solution to the Chicago City Laboratory for analysis, which proved that my suspicions were correct.

The patient at first repelled all attempts to have her stomach lavaged, but finally at the pleading of her husband she submitted to the above treatment. I used large quantities of milk and eggs diluted with water and succeeded in removing a fluid that was slightly bluish and also

containing some bile. I kept this treatment up energetically and continuously until I was well satisfied that the return flow was about as free from the above color as possible. Much against her will I persuaded the patient to go to a hospital and here I instituted the following treatment:

1. Hot packs, twice daily, mornings and evenings.
2. Egg albumin water every two hours.
3. Sodium acetate 2 grams in a tumblerful of hot water with a tablespoonful of lactose to be taken every 2 hours.
4. Proctoclysis with sodium acetate, 8 grams per liter.
5. High colonic flushings with large quantities of sodium bicarbonate, 3 per cent. solution twice daily.
6. Gastric lavage with a 3 per cent. solution of sodium bicarbonate.
7. A teaspoonful of the following was given every 3 hours:

R	Gm-Vel
	c. c.
Sodii hypophosphatis .....	15.0
Aqua distillate q.s. ad.....	60.0
Misce et fiat in solutio	

Under the above treatment the patient made an uneventful recovery and now, over a month since taking the poison, the patient does not display any ill effects or complications and is apparently no worse after her experience.

To summarize the entire treatment I would say that the first thing to do is to delay the absorbability of the mercury as much as possible and to protect the mucous membrane from the corrosive action of the poison. This is best done by lavaging the stomach with copious quantities of milk and eggs mixed with water. This not only precipitates the mercury, but will also in the return flow remove large quantities of the poison still present in the stomach. Second, the thorough and immediate elimination through the skin, kidneys and bowels best done as outlined under treatment.

While carrying out the treatment one must not forget that the patient's condition is such that it will require stimulation which is best done hypodermically by giving strychnine sulphate, gr., 1/60—1/30 or a small syringe of camphor-

6. A. R. Elliott: Ill. Med. Jour., May, 1902.



ated oil rather than to give additional drugs by mouth, as the patient's stomach is in such a condition that it will not tolerate very much medications through the gastro-intestinal tract. The patient should be wrapped in warm blankets and a hot water bottle placed immediately following the poisoning when shock or collapse is most threatening.

1521 Fullerton Avenue.

### INFANTILE SPINAL PARALYSIS.\*

L. H. JOHNSON, M. D.

CASEY, ILL.

This is also known as the Heine-Medin disease, or better, as acute anterior poliomyelitis.

It is an acute specific general infectious disease due to a filterable and cultivable virus (*Flexneria* *Noguchii*) occurring sporadically and epidemically, producing a widely disseminated meningo-encephalo-myelitis.

Heine of Sannstadt, in 1840, gave it the name "Infantile Spinal Paralysis" after much clinical study. Sporadic cases have been known for over 100 years, but the first epidemic was reported by Bergholtz in 1881 (18 cases). It is a disease that has been largely limited to the Scandinavian countries, the United States experiencing its first severe outbreak in 1907. The severest epidemics previous to the present one were in Sweden in 1905 (1,031 cases) and in Pennsylvania in 1910 (1,000 cases). In 1890 Medin, a Swedish observer, recognized the cerebral, bulbar, polyneuritic, and ataxic forms of this disease, but Strumpell earlier had suggested this cause for certain forms of cerebral paralysis of children observed by him.

Wickman of Sweden (1905-6) demonstrated the existence of a meningitic, an abortive and a Landry-type form and was really the founder of the epidemiology of this disease, showing it to be communicable from person to person; he also indicated that healthy persons may act as "carriers."

In 1870 Charcot studied the anterior horn changes, which was the beginning of the study of its pathology. Rissler in 1888 studied fresh cases at autopsy, but recently Flexner and his co-workers showed the process to invade the organs of the whole body, the anterior horn involvement

being more or less incidental to this general process. Lansteiner and Popper in 1908 successfully inoculated monkeys, which was the beginning of the important experimental studies. Flexner and Lewis in 1909 showed the disease could be kept going from monkey to monkey. Experimental work showed the porcelain filtered juices of the nervous system still carried the virus infecting monkeys and in 1913 Flexner and Noguchi grew this virus in ascites-fluid agar culture containing a piece of rabbit's kidney, the whole culture being covered over with paraffin (anaerobic), which on straining was found to be rounded, oval coccoid bodies, occurring singly or in pairs and in chains. They are Gram positive, nonmotile and very small. (0.2 micron.)

This virus is killed by heating for one-half hour to 550, but retains its virulence in 33 per cent glycerin for 202 days and stands freezing and drying well.

Mathers<sup>1</sup> (J. A. M. A., Sept. 30, 1916, page 1019), recently cultured portions of the brain and cord of eight cases, seven of which developed a growth in the aerobic ascitic dextrose broth and agar, after 18 hours, while in anaerobic cultures a definite growth appeared scantily in from 3 to 7 days.

Six of the seven cases grew a Gram positive micrococcus, occurring in pairs or short chains. In anaerobic culture it gave a small Gram positive coccus appearing in pairs, clumps or chains. Cultures from the heart blood and cerebrospinal fluid were negative but positive from the mesenteric glands.

These cultures injected intravenously into rabbits produced lesions of the central nervous system with paralysis of the extremities, resembling infantile paralysis. Intra-cerebral injections into the monkey also produced paralysis. While he regards this micrococcus as a secondary invader, yet its true status has not been determined. The Flexner-Noguchi virus will not infect other animals than monkeys.

One attack immunises against others, and the serum of such an immune will neutralize fatal doses of the virus.

Its transmission is not well known yet, but it is believed the disease always comes from a pre-existing case, directly or indirectly.

Wickman in 1905 first showed it to be communicable from person to person and indicated

\*Read at meeting of the Effingham County Medical Society, Oct. 9, 1916.

that healthy persons may act as "carriers," which now seems to be the important method of spreading it along routes of travel.

Its spread by insect bites seems excluded, though the stable fly and bedbug have transmitted it from monkey to monkey. Food and drink do not seem to be spreading agents.

As with meningococcus "carriers" these "carriers" probably group themselves into a large group of temporary and a small group of permanent "carriers." The virus is present in the nose, throat and intestine of the sick, and in the nose and throat of healthy contacts.

Sawyer found the virus in the rectal washings 16 days after the onset, and in the nose and throat 37 days after the onset of paralysis. In monkeys the virus was found present on the nasal mucosa six months after the onset of paralysis. This disease seems easily disseminated, yet a small per cent of contacts take it. Of 7,000 cases in New York during the present epidemic, in 6,521 instances there was only one case in the family (93.1%). In 205 cases there were two cases to the family (5.9%). In 20 instances there were three cases to the family (0.8%). In one instance four (0.1%), and in one instance five cases to the family (0.1%).

There seems to be some unknown agent responsible for transmission besides "carriers" and contact. The portal of entry seems to be through the lymphatics of the nose, mouth and throat, and probably also of the intestine. The elective affinity of this virus for the nervous and lymphatic systems is marked. Flexner and many others think it reaches the central nervous system from the nose and throat through the lymph vessels; others believe it to be a blood borne infection, though it is now thought the cerebrospinal fluid and blood from the general circulation are usually free from this virus.

*Pathology*—This is now known to be a general infection in which the nervous and lymphatic systems bear the burden of attack. In the nervous system the lesions are those of a widely disseminated menigo-encephalo-myelitis, and not an involvement of the anterior horn of the cord alone, as formerly thought. This is an acute perivascular inflammation with lymphocytic infiltration, edema and multiple minute hemorrhages, the damage to or destruction of the motor nuclei being largely mechanical, the result of

the circulatory disturbances and the exudate; the blood vessels become constricted or obliterated by the perivascular cellular infiltration. "On account of this pressure and anemia the nerve cells degenerate, and if the hemorrhage and exudate are absorbed soon enough the cells may recover function, but if the unfavorable conditions have been prolonged too long or are excessive, the nerve cells may go on to complete degeneration, when the terminal pathological changes will be replacement of the motor cells, by cicatricial tissue with shrinkage of the whole anterior horn in severe cases."—Lovett.

The infection spreads through the perineural and perivascular lymph spaces. Microscopic autopsy changes may not be marked but, "The histologic changes are so extensive that one wonders that the clinical symptoms are not more pronounced than they are. The infiltration of the pia, the dilation of the veins in the gray matter, the perivascular accumulations of small mononuclear cells, the neuronophagy of the anterior horn cells make a characteristic histologic picture. The swelling of the mesenteric lymph glands, of Peyer's patches and of the solitary follicles in the intestine is emphasized by Flexner, Peabody and Draper."—Barker.

There is a cloudy swelling in the parenchymatous organs much like that in typhoid fever. The involvement then of the nervous system does not spare the meninges, cord, brain, medulla or pons. But the involvement may be largely predominant in any one or more of these different parts in different cases, producing different clinical types of the disease. Wickman suggested the following classification:

1. Ordinary spinal paralysis (anterior poliomyelitis).
2. Progressive paralysis of the Landry type.
3. Bulbar paralysis (polio-encephalitis of the pons).
4. Acute encephalitis, giving spastic mono or hemiplegia).
5. Ataxic type.
6. Meningitic type.
7. Polyneuritic (multiple neuritis) type.
8. Abortive type.

Muller suggested the classification as follows:

1. The spinal form.
2. The bulbar form.
3. The cerebral form.



#### 4. The abortive form.

Peabody, Draper and Dochez suggest:

##### 1. The abortive form.

2. The cerebral form, where involvement of the upper neurones causes spastic paralysis.

3. The bulbo-spinal group, where there is a lesion of the lower group of neurones producing flaccid paralysis. Involvement above the floor of the fourth ventricle produces spastic paralysis; in the floor or below flaccid paralysis with loss of reflexes. Rather than being true types, however, these differing symptom groups are the result of predominant involvement and damage in the different parts of the cerebrospinal system.

*Symptoms*—During an epidemic the question of diagnosis must center around the discovery of early symptoms or prodromata. The incubation period has been found to vary from 5 to 46 days in experiments on monkeys; it is believed to be from 1 to 14 days in the human, rarely exceeding 10 days.

During this time there is a prodromal period of from 1 to 7 days. If a patient, during an epidemic, is taken ill with vomiting and fever, which is continuous with headache, backache, malaise, irritability or crankiness, as the parents often call it, and then has a tendency to stupor; if added to this there is stiffness of the neck and positive Kernig's sign with general hypersensitiveness, we should be on the lookout for an oncoming paralysis of some group or groups of muscles. Sore throat may be present, also more or less gastro-intestinal symptoms. *Tache cérébrale* has been present in most all cases.

The symptoms in the onset are not characteristic of any one type of the disease, but are conglomerate with the frequent prominence of one symptom or set of symptoms referable to the meninges or throat and respiratory organs, the gastro-intestinal tract, or frequently there is the influenza like onset.

The most suspicious early symptoms, however, are the aching pains and soreness of the neck and back muscles, hypersensitiveness and increasing deep and superficial reflexes, *tache cérébrale* and Kernig's sign.

Disappearance of reflexes (most often of knee and achilles) adds greatly to the suspicion that paralysis will follow.

In infantile paralysis the spinal fluid is at this time clear, there is slight lymphocytosis as a rule,

the fluid is sterile and pressure normal or but little increased, as contrasted with that of cerebrospinal meningitis. A diagnosis is at best suspicioned in this stage but not positive until the stage of paralysis comes on in from 1 to 7 or 8 days. In the usual spinal form, one or more extremities are paralyzed partially or totally with loss of reflexes, but sphincter disturbances occur. The spinal muscles may be involved, making it impossible for the child to sit up or hold its head up, or the intercostals may be involved, making chest expansion impossible; this paralysis does not necessarily effect the limb or part as an anatomical whole but may be limited to a single group of muscles, or a few groups and assumes its full development and its wildest distribution usually at the time of its first appearance. The frequency of involvement as regards disability of joints, is first the lower limb, in ankle most frequently, then the knee and lastly the hip, but in the upper extremities the reverse is true, the shoulder first, elbow, then the wrist and hand. In regard to age of 7,496 cases in the present New York epidemic:

751 cases (10%) occurred in children under 1 year of age.

1,541 case (20%) occurred in children from 1 to 2 years of age.

1,743 cases (23%) occurred in children from 2 to 3 years of age.

1,278 cases (17%) occurred in children from 3 to 4 years of age.

618 cases (8%) occurred in children from 4 to 5 years of age.

6,413 cases (85.5%) occurred in children under 5 years of age.

812 cases (10.8%) occurred in children from 6 to 10 years of age.

142 cases (1.9%) occurred in children from 11 to 15 years of age.

129 cases (1.7%) occurred in children over 16 years of age.

Sensation in infantile paralysis is thought to be unimpaired, but modern knowledge of pathology makes this seem unlikely because the posterior root ganglia is generally the first part of the nervous system to be affected and because tenderness is present early.

Disturbances of circulation, atrophy of bone and muscle and retarded growth occur in the severer cases.

The abortive type, first described by C. S. Coverly of Rutland, Vermont, in 1894, differs but little in the onset from the spinal form except it is not followed by marked paralysis. It is estimated that 25 per cent or more of epidemics are abortive in type.

Wickman estimates this type at 35 to 50 per cent of the whole number, and Muller at 50 per cent, so that it is a type to be looked for carefully. Aside from an epidemic one would give such symptoms as are present in this type other than a place among the extremely indefinite signs of an affection.

The bulbar type (polioencephalitis, superior and inferior).

The symptoms depend on the nuclei involved (single or in many combinations), the sixth and seventh cranial frequently involved, causing paralysis of muscles of deglutition also very frequently vocal involvement causing respiratory and cardiac disturbances leading to early death.

It is well here to pause and consider what is the limit to the spread of the disease. As a rule, in purely spinal cases, the paralysis appears and does not spread to any extent in the great number of cases. In others it may spread from the extremities and involve the whole trunk; as a rule it seems that after the tenth day paralysis is not apt to spread to the bulbar medulla, though cases have been known to die after the fifteenth day. The meningitic type presents almost a typical picture of meningitis, but early in all cases there usually will be more or less evidence of meningeal involvement, but particularly so in some. Headache, backache, vomiting, rigidity of neck and back, Kernig's sign, delirium, coma, etc., make the diagnosis impossible until paralysis comes on. Tubercular meningitis also may cause flaccid paralysis.

In the Landry type the paralysis begins in the lower extremities and extends upward, often the 9th and 10th nuclei are destroyed ending in death in five days or less. The cerebral type (acute encephalitis type) resembles acute meningitis and spastic paralysis; in children the reflexes may remain more or less absent, but in adults increased or exaggerated; permanent hemiplegia is the rule.

**Mortality**—In foreign countries 10 to 20 per cent die. Of 8,861 cases in the present New York epidemic 2,226 (25 per cent) died, which is the

highest American mortality to date. The danger of death is greater in older children and adults than in children under five years.

**Treatment**—Lovett divides the treatment into three stages:

1. The acute phase lasting from the onset until the disappearance of the tenderness.
2. Convalescent phase, beginning at the end of the acute phase and lasting over the period of spontaneous improvement (about 2 years).
3. The chronic phase, a stationary period with deformities if present.

Sophian<sup>2</sup> (Journal A. M. A., August 5, 1916, page 426) says: "The symptoms of infantile paralysis as in epidemic meningitis may be grouped into those caused by:

1. Hydrocephalus.
2. The inflammatory reaction in the meninges and nerve substance.
3. Paralysis due to focal involvement of the nerve tissue."

He says further: "The treatment of infantile paralysis may be divided into:

- "1. Relief of hydrocephalus.
- "2. Intraspinal injection of serum, normal horse, normal human or convalescent.
- "3. Control of special symptoms, as respiratory paralysis.
- "4. Symptomatic general treatment, and
- "5. Orthopedic treatment."

He says: "With its pressure hydrocephalus symptoms are most prominent during the acute stage, usually moderate; when pronounced, patients are stuporous with twitchings, convulsions and respiratory embarrassments." This is to be relieved by one or more lumbar punctures, removing the fluid until the pressure drops to normal.

"2. As to the sera, we have no highly immune serum for infantile paralysis yet. Sophian believes the production of a hyperleukocytosis in the cerebrospinal fluid to be an important therapeutic measure; also a general hyperleukocytosis as in typhoid fever, by the intravenous injection of sensitized vaccine and other non-specific proteins. Intraspinal injection of anti-meningococcal or normal human serum, produces hyperleukocytosis of the cerebrospinal fluid, which he believes to be a non-specific protein reaction and without harm if done aseptically, but it should be done early before paralysis comes on.



Mettler<sup>3</sup> (Bull. de L' Acad. Med., October 12, 1915, page 403) treated 32 cases of poliomyelitis with convalescent serum; he prefers the serum from a patient who had the disease from three months to four years previously. He injects 5 to 13 c.c. of the serum into the spinal cavity daily, with patient's head lowered, after drawing out rather more fluid than he injects; this daily treatment lasts 10 to 15 days. It always causes some inflammatory reaction of the meninges as shown by alteration of the fluid withdrawn later (more fibrin albumin and polynuclear cells), more pain in back and more muscle stiffness and hyperesthesia and more fever. In two of his cases these symptoms caused anxiety. In six cases he got complete and rapid recoveries; in three, amelioration approaching complete recovery; in seven, marked amelioration; in five, improvement of more doubtful character; in eight, death by involvement of medulla. Sophian tried convalescent serum in 14 of his sickest patients, with but one death. Dr. J. S. Meltzer suggested the use of epinephrin intraspinally in doses of  $\frac{1}{2}$  to 1 cc. every 6 or 8 hours. This has produced very favorable reactions. This improvement remains to be proven; the serum and intraspinal treatment are yet in the experimental stage, but in time no doubt an efficient serum treatment will be worked out.

"3. Respiratory paralysis is the most common cause of death in these cases. Special methods of artificial respiration, administration of oxygen, etc., have been tried in extreme cases to tide the patient over, with uncertain results.

"4. The general medical treatment is to be symptomatic only, the patient's bowels, kidneys, diet, change of position, etc., are to be looked after carefully. The sick room kept as sanitary as possible, respiratory paralysis watched for and other special and general complications guarded against.

"5. Orthopedic treatment; during the acute phase while soreness, tenderness and hyperesthesia are still present, the patient should be kept in bed.

Electricity, massage and other irritating and stimulating forms of treatment should be avoided until the disappearance of tenderness (which may be delayed for three weeks to three months) shows the inflammatory process in the cerebral nervous tissue no longer to be active. This plan of treatment is very important. At the latter

part of this period warm baths may help. Contractions may tend to develop at the latter part of this period and should always be prevented by plaster paris or other efficient immobilization. Some cases drag out a prolonged febrile septic course and should be treated with proper knowledge of the condition present.

In the convalescent stage we are dealing with the result of a hemorrhagic myelitis which accompanied a general infection and which destroyed or impaired or temporarily inhibited the function of certain nerve centers, the muscles controlled by these centers having become inactive and wasted, the circulation has become sluggish and the general resistance of the patient is below par. Hence the time has come for the work of reconstruction.

At this time we are first to prevent permanent deformity and second to restore all possible muscular power to affected muscles. This is the stage for massage, electricity, muscle training, braces, etc., and the patient should be in the hands of a competent orthopedist.

Important operations for the correction of deformities should be deferred until the stage of improvement is ended, being reserved for the third—the chronic or stationary stage.

(In the preparation of this article I have referred freely to the writings of Lovett in the Journals and his book "Treatment of Infantile Paralysis," Barker, Sophian, Mathers, Hoyne, Cepelka and many others.)

Case 1. Edith Black, 10 months old, temperature 101, seeming well three days then left arm became paralyzed.

Case 2. Max Treplehorn, aged 6 years; toxic, temperature 102, sick 4 days, paralysis slight of left lower limb.

Case 3. Russell Burk, aged 4 years, began with convulsions, constipation, high temperature, Kernig's positive, hypersensitiveness, tache cérébrale, paralysis of muscles of deglutition, loss of knee reflexes, death, bulbar type.

Case 4. John Johnson, 8 years old; September 18, 1916 came home from school sick, complaining of stomach, head and legs, had vomited and continued to vomit for 36 hours; had spells of rolling and tumbling for 15 to 20 minutes, stomach hurting, then an interval of 2 to 3 hours quiet.

September 19 complained of throat hurting, temperature 104, tache cérébrale marked.

September 22 hypersensitive, Kernig's positive, loss of patellar reflexes, loss of use of muscles of deglutition.

September 24 regained use of muscles of deglutition, neck rigid, unable to lift head off of pillow.

October 2, much improved.

Case 5. Ralph Johnson, 4½ years old, brother of John, took sick September 28, 1916, ten days after beginning of sickness of brother, with extreme nervousness, hypersensitiveness, exaggerated plantar reflexes, loss of patellar reflexes, restless spells, constipation.

October 2 partial paralysis of right arm and left leg.

October 7 much improved, no temperature, but still sore.

Case 6. Lawrence Hilty, 22 months old, sick one week before he became paralyzed.

September 8 both lower limbs and entire left arm and forearm, right arm, but not forearm, toxic hypersensitiveness, tache cérébrale marked.

September 15, partial paralysis of muscles of deglutition, bulbar type.

Case 7. Dorothy Wright, 6 years old, sore throat, seemingly well four days, then sick again, symptoms of a general infection, toxic, high fever; fever subsided in about four days, partial paralysis of left side, arm, leg and muscles of back.

October 6 regained use of limbs, but yet unable to stand up.

Cases 8 and 9. Pearl, 6 years old, and Ruth Brandenburg, 4 years old, took sick same day, toxic, symptoms of general infection. Pearl developed no paralysis, but an apparent stiffening of joints of hips and knees, causing her to fall many times when trying to walk.

Ruth sick the same length of time and same way, but developed a partial paralysis of right side, unable to stand up.

## INTESTINAL TAENIASIS IN CHICAGO.

WESLEY C. BECKER, M. A., M. D.

Assistant in Medicine, Rush Medical College; From the Central Free Dispensary, Rush Medical College.

CHICAGO, ILL.

Although many cases of *Bothriocephalus latus* infection have been reported in the United States, chiefly among the emigrants from Finland and northern Russia and Germany, it was not until 1906 that evidence of a local focus of infection in the United States was found. Nickerson<sup>1</sup> in that year reported several cases from Minnesota, one of which was of undoubted local origin. He suggested at that time that the fish in certain lakes had become infected and predicted that *Bothriocephalus latus* would probably become the commonest tapeworm in the Great Lakes region of the United States as it is in Japan and certain regions of Russia, Germany and France. Warthin<sup>2</sup> in 1911 investigated for the Michigan State Board of Health, *Bothriocephalus* infection in northern Michigan and found an additional case of local origin. Both Nickerson and Warthin

found larval forms resembling the plerocerci of *Bothriocephalus latus* in fish caught in the Great Lakes, but were unable to positively identify them.

Two cases of *Bothriocephalus latus* infection occurring within a short space of time in the Central Free Dispensary of Rush Medical College directed my attention to what appeared to be a comparatively frequent tapeworm in Chicago. Upon looking over the records of the Dispensary, it was found that 54 patients with cestode infection had applied for treatment during the past five years. Of 37 of these in which the diagnosis was based on examination of segments, 30 were cases of infection with *T. saginata*, 6 with *Bothriocephalus latus* and one with *T. solium*. As approximately 75,000 new patients were examined in the Dispensary in this period, the frequency is approximately 1:1400. This is practically the same frequency as was found by Stiles<sup>3</sup> in the eastern states and is somewhat in variance with the generally accepted opinions concerning the frequency of intestinal taeniasis in this country.

Of the six cases of *Bothriocephalus latus* infection, all but one were in comparatively recent emigrants from Russia or Germany. Although the segments were not noticed until at least two years after arrival in the United States, a previous infection cannot be ruled out. One case, however, appears to be of local origin. A Jewish boy, aged 11 years, said that he had noticed segments of what he thought was a tapeworm in his stools for the past three months. He had no complaint other than he wished to get rid of the worm. In a specimen of his stool, a great number of eggs and about 18 segments of *bothriocephalus* were found. Physical examination was negative. A differential leukocyte count showed 3 per cent. eosinophiles. He was given written instructions in regard to the treatment and told to collect all pieces resembling segments and bring them to the dispensary. The day following the day set for the treatment he brought back an entire *Bothriocephalus latus* tapeworm. His mother stated that the boy was brought to Chicago while still a nursing infant from Odessa, Russia. In answer to direct questions she stated that they eat considerable amounts of fresh fish. She denied having eaten imported fish.

1. Jour. A. M. A., 1906, XLVI, 713.

2. Public Health, Bulletin of the Michigan State Board of Health, 1912.

3. Bull. No. 28, Hygn. Labs., U. S. Public Health Service.



# ILLINOIS MEDICAL JOURNAL

Published monthly by The Illinois State Medical Society, under the direction of the Publication Committee of the Council.

## GENERAL OFFICERS, 1915-16

PRESIDENT.....WILLIAM L. NOBLE, Chicago  
 PRESIDENT-ELECT.....E. B. COOLLEY, Danville  
 FIRST VICE-PRESIDENT.....C. F. NEWCOMB, Champaign  
 SECOND VICE-PRESIDENT.....R. A. MCCLELLAND, Yorkville  
 TREASURER.....A. J. MARKLEY, Belvidere  
 SECRETARY.....W. H. GILMORE, Mt. Vernon  
 (Ex-officio Clerk of the Council)

## THE COUNCIL

District 1—EMIL WINDMUELLER, Woodstock.  
 District 2—EDWIN S. GILLESPIE, Wenona.  
 District 3—CLYDE D. PENCE, Chicago.  
 District 4—AUGUST H. ARP, Moline.  
 District 5—C. S. NELSON, Springfield.  
 District 6—C. D. CENTER, Quincy.  
 District 7—C. F. BURKHARDT, Effingham.  
 District 8—C. E. PRICE, Robinson.  
 District 9—FRANK C. SIBLEY, Carmi.  
 CLYDE D. PENCE, *Chairman*, 3838 Ogden Avenue.

Send original articles and all communications relating to advertisements and mailing list to Dr. Clyde D. Pence, Editor, 3838 Ogden Avenue.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

Society proceedings and news items to Dr. Henry G. Ohls, *Managing Editor*, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

## MEDICO-LEGAL COMMITTEE

ANDY HALL.....Mt. Vernon  
 WILLIAM O. KROHN.....Chicago  
 GEORGE STACY.....Jacksonville  
 D. R. MACMARTIN.....Chicago  
 C. B. KING, *Chairman*.....3938 Jackson Blvd., Chicago  
 THOMAS D. CANTRELL, *Secretary*.....Bloomington

## GENERAL COUNSEL

ROBERT J. FOLONIE.....39 S. La Salle Street, Chicago

State society will pay no bills for legal services except those contracted by the committee. Notify the Chairman at once. Don't employ attorneys.

DECEMBER, 1916

## Editorials

The Journal wishes every reader a Merry Christmas and a Happy New Year.



## SOCIAL INSURANCE REPORT.

We are giving over a large portion of this issue to the reports of the Social Insurance Committee. Health insurance is the one important question at this time so far as medical legislation goes. The so-called model bill will be presented to the legislatures of at least twenty-five states this winter. It is reported that at least four bills on this subject will be presented to the next Illinois assembly. There seems to be a wild rush in all quarters to get enacted a health insurance law, and the probability is that Illinois will have one during the year.

In European countries obnoxious health insurance or social insurance laws have proven unjust to the medical profession of those countries. The laws were passed while the profession in the several countries was indifferent—now the profession is staggering under the burden.

It is only proper that the profession of this country should jealously guard their rights. You need not expect the legislature or the interested organizations to do it for you. Various organizations are now forming their bills, and it is now that the work of your committee may be most effective. If the law is to come, it seems best at the present time that the committee work with other organizations in molding a bill that will be fair and just to the medical interests. The committee is anxious to have your criticisms. They have already done a large amount of work, and it is only just that you favor them with your opinions.

## COMPULSORY HEALTH INSURANCE.

The American Association for Labor Legislation has drafted a Health Insurance Bill, known as the Model Bill, to be introduced into twenty-five states of the Union and Canada this coming year.

The proposed bill is issued in pamphlet form for educational purposes to create sentiment in its favor, and every practitioner who gives thought to his future welfare should become acquainted with its provisions.

We herewith present below the sections applying to physicians' services and invite criticism of same. Mail criticisms to the Committee, 25 E. Washington street.

## PROVISIONS RELATING TO PHYSICIANS.

## MEDICAL, SURGICAL AND NURSING ATTENDANCE.

Section 9. All necessary medical, surgical and nursing attendance and treatment shall be furnished by the carrier from the first day of sickness during the continuance of sickness, but not to exceed twenty-six weeks of disability in any consecutive twelve months. In case the carrier is unable to furnish the benefit provided for in this section, it must pay the cost of such service actually rendered by competent persons at a rate approved by the Commission.

## MEDICAL SERVICE.

Sec. 10. The carriers, subject to the approval of the commission, shall make arrangements for medical, surgical and nursing aid by legally qualified physicians and surgeons, and by nurses or through institutions or associations of physicians, surgeons and nurses. Provisions for medical aid shall be made by the carriers by means of either:

1. A panel of physicians to which all legally qualified physicians shall have the right to belong, and from among whom the patients shall have free choice of physicians subject to the physician's right to refuse patients on grounds specified in regulations made under this act; provided, however, that no physician on the panel shall have on his list of insured patients more than 500 insured families nor more than 1,000 insured individuals.

2. Salaried physicians in the employ of carriers among which physicians the insured persons shall have reasonable free choice.

3. District medical officers, engaged for the treatment of insured persons in prescribed areas.

4. Combination of above methods.

## MEDICAL OFFICERS.

Sec. 11. Each carrier shall employ medical officers to examine patients who claim cash benefit, to provide a certificate of disability, and to supervise the character of the medical service in the interests of insured patients, physician and carriers.

## MEDICAL AND SURGICAL SUPPLIES.

Sec. 12. Insured persons shall be supplied with all necessary medicine, surgical supplies, dressings, eye glasses, trusses, crutches and similar appliances prescribed by the physician, not to exceed fifty dollars in cash in any one year.

## HOSPITAL TREATMENT.

Sec. 13. Hospital or sanatorium treatment and maintainance shall be furnished, upon the approval of the medical officer of the carrier, instead of all other benefits (except as provided in Section 16), with the consent of the insured member, or that of his family, when it is not practicable to obtain his consent. The carrier may demand that such treatment and maintainance be accepted when required by the contagious nature of the disease, or when in the opinion of its medical officer such hospital treatment is imperative for the proper treatment of the disease or for the proper control of the patient. Cash benefit may be discontinued during refusal to submit to hospital treatment. Hospital treatment shall be furnished for the same period as cash benefit. This benefit may be provided in those hospitals with which the funds and societies have made satisfactory financial arrangements which have met the approval of the Social Insurance Commissioners, or in hospitals erected and maintained by the funds and societies with the approval of the commission.

## ARBITRATION COMMITTEE.

Sec. 14. All disputes between the insured and physicians, or between funds and physicians concerning medical benefit shall be referred to special committees composed of representatives of the interest concerned with an impartial chairman appointed by the Commission, with an appeal to the Commission.

Committee on Social Insurance,

Chicago Medical Society:

J. V. FOWLER, M. D.

C. B. KING, M. D.

WM. O. KROHN, M. D.

K. A. ZURAWSKI, M. D.

C. J. WHALEN, M. D., Chairman.

## CHICAGO THE GREAT MEDICAL CENTER.

Plans well under way promise to make Chicago premier in medical education at the time some of the greatest European institutions may be closed on account of the war. Announcements made November 10, by President Judson of the University of Chicago and Dr. Flexner of the General Education Board in New York, indicate that the university will extend its under-



graduate school course from two to four years, build a clinical hospital on the South Side, with 250 beds, and establish a postgraduate institution, including Rush Medical College, the Presbyterian Hospital and the Central Free Dispensary on the West Side. A laboratory building will replace the present Rush building. Full time teachers will be in charge of instruction in both institutions. Other hospitals and institutions will be affiliated from time to time until the total investment for buildings and endowment is estimated at \$15,000,000. To finance the plan the Rockefeller Foundation and General Education Board each subscribed \$1,000,000 and the institutions are to raise \$5,300,000 in addition to the value of their present plants. Of this amount more than half has been subscribed, including \$500,000 presented by Mr. and Mrs. Julius Rosenwald, and \$250,000 by Mr. Martin A. Ryerson. Credit for the undertaking may be given largely to President Judson and to Dr. Frank Billings and his associates in the faculty of Rush.

Medical education in Chicago has passed through the stage of low grade proprietary institutions with poor equipment and policies dictated more by the ambitions of promoters to make them "pay" than by considerations for the highest welfare of the profession and the public. The time is at hand when Chicago will attract the most ambitious to opportunities that are unsurpassed elsewhere.

#### AFTER TREATMENT OF POLIOMYELITIS

*To the Editor:*—Advertisements in down-state newspapers show that osteopaths, chiropractors, and other practitioners are carrying on an earnest and active campaign among the unfortunate victims of poliomyelitis.

The advertisements show that they are endeavoring to induce the afflicted to come to them for treatment by insisting that their method is superior to all other forms of treatment.

The after care of this disease should be regulated with the greatest care, and if not properly supervised, greater injury may be done the patient than was produced by the disease itself.

Scientific manipulation of a paralyzed muscle is desirable, but the condition may require more than manipulation; braces, electricity and even the transplantation of muscle or muscles may be necessary. These methods of relief or cure

should be utilized only after thorough understanding of the diseased condition.

It is the duty of the medical profession to give special study and attention to the after-treatment of this disease. First, in order that the greatest good can be done the individual patient, and second, in order to retain the confidence of the patients so that they will not drift into the care of irregular practitioners utterly incompetent to classify pathological conditions or give scientific care and direction.

Recent epidemics of poliomyelitis have demonstrated the possibility of accomplishing marvelous results by way of partial or complete restoration of function of paralyzed muscles. It is incumbent, therefore, upon every physician having one of these unfortunates under his supervision to acquire this up-to-date information at the earliest moment possible in order that the greatest amount of restoration of function of the paralyzed muscles may be brought about.

If victims of poliomyelitis are drifting into the hands of the incompetent practitioners, the medical profession has only itself to blame.

---

#### DISEASE CONTROL RUN RIOT.

In view of the way health departments are running riot with insane fads of various brands and denominations, we suggest the following as a good one with which to gain newspaper notoriety. No doubt it would solve the latest fad, birth control.

*Resolved*, That pregnancy be listed as a "communicable and preventable" disease, to be supervised by the health department.

---

#### THE BIRTH OF A NEW MEDICAL SOCIETY.

The Tri-State District Medical Society came into existence at Freeport, Ill., and held its first meeting September 26 and 27.

For a newly-born it was the liveliest society ever organized.

Last January at a joint meeting of the Stephenson, Joe Daviess and Ogle County Medical Societies held at Freeport, the councillor of the First Illinois District, who was present, suggested that this meeting be made an annual affair and it was decided to do so.

However, the councillor did not count on the energy and initiative of the men in the northwest corner of our state, for they interested other counties in northern Illinois, and the state line being no barrier, southern Wisconsin counties were invited to join and so came to life the "Confederation of County Medical Societies of Northern Illinois and Southern Wisconsin," as the new society was christened in its inception.

Rumors of the new society floated across the Mississippi and eastern Iowa clamored for admission which, of course, the live wires in Freeport gladly gave. This necessitated the change in name and so the new organization was called the "Tri-State District Medical Society," being composed of the councillor districts which join at the three state lines.

This first meeting was certainly a success, for in spite of the incessant rains, keeping many of the country doctors away, there were registered over two hundred physicians. A program was presented which was of the highest quality and the presentation of these papers filled both days from 9 a. m. until a very late hour.

At the Freeport hospitals excellent clinics were held and well attended. The high quality of work done at these hospitals by the local men of Freeport was a revelation to many of the visiting men.

There were present the presidents of the State Medical Societies of Illinois, Wisconsin and Iowa, as well as the president-elect of the Illinois State Society.

Socially the meeting was a mighty success, for the visiting doctors were dined and entertained until it seemed the limit had been reached and then more dinners, more entertainment and finally a superb banquet and ball closed a meeting which will long be remembered by all who attended. All honor and praise is due to that wide-awake bunch of Freeport doctors who were so lavish in their hospitality.

President Wm. B. Peck and Secretary N. C. Phillips were reelected for another year, and the next meeting of the society will be held early in September, 1917, at Dubuque, Iowa.

By the way, Dr. Chas. Sheldon of Madison, Wis., age seventy-four, was the liveliest man at the meeting and the youngest fellow we have met outside of a cradle—and how he could sing.

## Correspondence

### MARGINAL ALPHABETICAL INDEX FOR TELEPHONE BOOK.

A simple method to save time and energy for physicians, hospitals, druggists and everybody who uses the telephone.

Several years ago the idea occurred to the one offering this suggestion that if dictionaries, medical directories, etc., were indexed on the margin, why not telephone books, because they are the most often used of any directory?

Such an index is invaluable to the physician and all who aid him in his practice. It cuts down the time that his telephone is busy being used by patients and others not directly connected with his office force. It makes money for public telephones in drug stores, making them easier and quicker to use.

Hospitals in smaller communities often furnish gratis telephone service to their patrons. The marginal index coupled with the little sign, "This is a Business Telephone. Please Don't Visit," should increase the time the telephone is open for prospective business for hospital management and staff.

A marginal index helps one to remember without effort many of the more often called numbers, because they are easily found and fixed; so after a while the book is only consulted for new calls.

This matter has been mentioned to a local company and the branch of a large general company, but they don't seem to take to the proposition. Public opinion will in time force the companies to furnish a marginal index.

Until then, large directories are best indexed on the margin with book tabs that cost almost nothing and can be attached in a few minutes; while smaller books can be indexed by cutting out and printing the letters on the margin, first counting the number of divisions required for the index space.

G. H. STACEY, M. D.,  
Jacksonville, Ill.

The above communication from Dr. Stacey was referred to the Chicago Telephone Company, and below we give Mr. Ramsay's reply.

It seems evident that an index of some sort would improve the telephone directories of the medium-sized cities. If a marginal index were



used in the Chicago telephone directory, it would necessitate a better grade of paper being used which would be stronger and consequently thicker, or a heavy sheet between the different letters for a thumb tab. This would make a much larger directory of one which is already too large. It would seem that a marginal index might save a considerable amount of time. It might be feasible to supply directories with marginal indices to those telephones which are more frequently used. In Chicago subscribers are furnished with a separate classified directory which is useful.

### CHICAGO TELEPHONE COMPANY.

Chicago, November 20, 1916.

*To the Editor:* Referring to your communication of the 15th attached to which is a letter from G. H. Stacey suggesting a marginal index for telephone directories.

Theoretically Dr. Stacey's suggestion is feasible, but in practice it would not work out except in small places where an index is hardly necessary. This question has been given very serious consideration by telephone companies in the past and we have come to the conclusion that an index, such as suggested, is not practical for such books because of the increased possibility of tearing the pages after a thumb index has been inserted or a tab index attached thereto. We find our present plan very satisfactory because of the fact that any particular letter includes a large number of pages and it would be impossible to refine the index sufficiently to serve the purpose. We have, therefore, adopted what we believe to be the best possible plan which is called to the attention of our subscribers in our information pages under the side heading of "Index Names in Directory" on page IV which reads as follows:

"If patrons will use the index names in the right and left hand corners at the top of each page of this directory, time will be saved in finding the name desired. The name on the left indicates the first and the one on the right the last name on the page."

\* \* \* \* \*

We believe this plan is the most practical for our purpose.

Yours truly,

A. M. RAMSAY,  
Directory Superintendent.

### SOCIAL INSURANCE.

The passing of these laws does not mean that some new or special law has been passed to compensate an injured workman under the old common law system, but it means an entirely new legal and social conception of compensation for injury, and is the beginning of a new social and economic condition in this country. These new economic conditions affect very

materially the medical men in a community. It is certain to bring up the questions in new forms of contract and lodge practice, of health and accident insurance, of state aid and state medicine. It will also affect the relationship between the boards of trustees and the attending physicians and surgeons in private and municipal hospitals.

### EFFECT ON THE MEDICAL PROFESSION IN EUROPE

To show the effect clearly, it will be necessary to describe similar laws and the effect of such laws in Germany, England and other countries of the Old World, which have long since possessed them. The experiences gained by the medical profession under the economic changes which these laws have brought about in England and on the continent cannot fail to be of value to the profession in the United States, if the profession is alive to the changes which are coming about and are willing to learn from the experience of others and take advantage of the knowledge so gained.

### NEW LAW BASED, NOT ON FAULT, BUT ON FACT

In recent years there has been an increasing tendency to break down the barriers protecting the employer and to throw more and more the responsibility for the injuries received in industry on him, until finally the European conception, years ago adopted in many countries, has been accepted in these workman's compensation laws, replacing the former common law system by a law based, not on fault, but on the fact of injury resulting from accident in the course of the employment, recognizing that injuries to workmen under existing conditions should be regarded as risks of the industry. That is, the human wastage of injury, invalidism and death should be classed in the same category as the wear and tear of other necessary means of production and should be paid for by the industry which produces the wastage. If paid for by the industry producing this human wear and tear, it is paid by those who use the products of the industry. Heretofore the injury has been produced, and, besides the injured workman, society at large, by charity and taxation for municipal care, has borne in great measure the expense of the element of human injury.

### INSURANCE PRINCIPLES APPLIED

In considering how best to accomplish these results, the ideas of insurance which have developed so enormously in the taking of risks on human existence and of risks against fire and other calamities, are those which most readily occur to solve the problem of injury, death and calamity in the industrial fields. That is, many individuals are willing to put a relatively small amount in a common fund that the few individuals on whom calamity falls may have a relatively large sum to compensate them for the loss by the calamity, all realizing that in any one year it cannot be foreseen on which individual the calamity will fall and all forced to take a chance on whom it may fall.

### EUROPEAN SOCIAL INSURANCE

Before considering the different methods of workman's compensation against accidents in the various states in the Union, it is well to consider what has been accomplished in Europe under these social insurance laws.

Rubinow, in his book on "Social Insurance," gives the order in which the various countries have fallen into line as follows:

Germany, 1884; Austria, 1887; Hungary, 1891; Norway, 1894; Finland, 1895; Great Britain, 1897; Denmark, Italy and France, 1898; Spain, New Zealand and South Australia, 1900; Netherlands, Greece and Sweden, 1901; West Australia, Luxemburg and British Columbia, 1902; Russia and Belgium, 1903; Cape of Good Hope and Queensland, 1905; Nuevo Leon (Mexico), 1906; Transvaal, 1907; Alberta, Bulgaria and Newfoundland, 1908; United States, for federal employees only, 1908; Quebec, 1909; Serbia, Nova Scotia and Manitoba, 1910; Switzerland and Peru, 1911; Roumania, 1912; about twenty-six states of the American Union, 1911-1913.

As present the situation seems best summed up by saying that accident compensation or accident insurance has been established practically throughout Europe and in many British colonies. Compulsory sickness insurance has been introduced in about one-half of the large countries of Europe, namely,

Germany, Austria, Hungary, Norway, Great Britain, Serbia and Russia, and voluntary subsidized sickness insurance in France, Denmark, Sweden and Switzerland. Compulsory old age insurance exists in Germany, Luxemburg and France, and old age pensions in Denmark, Iceland, Great Britain, France, Australia and New Zealand, and voluntary subsidized state systems of old age insurance in Italy, Belgium, Serbia and Spain. Unemployment insurance by means of subsidies to workmen's voluntary organizations is rapidly spreading in large European cities and exists by national law in Norway and Denmark; the first compulsory unemployment insurance system has been established in Great Britain, and the first beginning of a national system of widows' and orphans' pensions has been made in Germany.

#### ACCIDENT INSURANCE

In Germany there is compulsory insurance, in which all employers of the same industry are forced into mutual insurance associations. This plan is also followed by Austria, Luxemburg, Italy and Hungary, although there are differences in important details from the German system. Norway and the Netherlands have a compulsory state insurance. Under this plan the employer must insure his employees through the state insurance department, which fixes the premiums and pays the indemnities prescribed by law to those entitled to them. In Sweden the plan of Norway is further modified in that the state insurance is not compulsory, but a state insurance department is provided, in which the employer may insure his employees. In Denmark there is no insurance department, but a Workman's Insurance Council is provided, to which all accidents must be reported and which fixes the indemnities which the employer or his agent, the insurance company, must pay. In Great Britain the workman must insure, but the employer may meet his obligations of compensation to the employee through state, mutual or private stock companies. If an employer does not insure, the English law makes his employees preferred creditors up to \$500. In France there is a law imposing a special tax on employers who are liable to pay compensation, and the proceeds of this tax are used to indemnify the victims of accidents in those cases in which the employer becomes insolvent after the accident occurs.

The Workman's Compensation Law of Switzerland has compulsory insurance against non-occupational accidents. Instead of the employer meeting the whole cost, as in the case of industrial accidents, the premiums are borne jointly by the individual insured workmen and the state, the latter paying 25 per cent.

The insurance against sickness differs from that against accident, in that the workman contributes part of the funds, the employer contributing part and the state a varying amount. In the subsidized voluntary scheme, as of Sweden, Denmark, Belgium, France and Switzerland, the government aid is given to various societies, and while the membership of these societies is voluntary on the part of the workman, each workman must have the opportunity to join some society, and the government will aid with its subsidy only those societies which will accept its regulations.

#### COMPULSORY SICKNESS INSURANCE

Compulsory sickness insurance has reached its greatest development in Germany, Great Britain and Russia. In putting into effect the compulsory insurance, the governments of Europe have moved in the line of least resistance to obtain this end. The sick insurance is done through well recognized societies already existing, and, in fact, they vary from the old medieval guilds to the modern establishment found where the employees of a single establishment are united in benevolent organization. In Germany the employer pays one-third and the employees two-thirds of the premiums. In England the employer pays 83 per cent for men and 37.5 per cent for women; the employee, if a man, pays 44.5 per cent, and 37.5 if a woman, the state contributing in the case of women 25 per cent and in the case of men 22.5 per cent of the entire expense. In Hungary, employer and employee contribute equal amounts. In Russia the workman pays 66⅔ per cent and

the employer 33⅓ per cent, but the entire cost of the medical aid is placed, in Russia, on the employer.

#### OLD AGE INSURANCE

In both France and Germany the old age systems differ widely in details of the methods employed, but arrive at about the same results in giving a definite pension to old age—Germany at the age of 70, France at the age of 60. Invalidity is included in both these schemes, but the conception of invalidity also differs widely. In France it is total and permanent disablement; in Germany it is when a person's working capacity is reduced to one-third of the normal amount, so that under the invalidity heading it includes the heading of premature old age or the individual worn out before even the physiologic old age comes on. In Great Britain the old age pension is given at 70 years of age and according to a sliding scale of rates and conditioned on certain qualifications. Norway, Sweden and Holland do not have old age pensions. Belgium has a voluntary pension system for all citizens. The pensions begin at from 55 to 65 years, but an invalid pension is paid to those incapacitated before the pension year. New Zealand, New South Wales and Victoria have old age pensions at 65 years, following more the plan of England than of Germany.

#### MATERNITY INSURANCE

In Italy there has been a compulsory maternity insurance since 1910, and in the absence of any national sick insurance in this country. It covers all working women in factories, etc., of an age from 15 to 50, married and unmarried alike, the employers and the employees contributing an equal amount. This total contribution is 19 cents for women from 15 to 20 years old and 38 cents for the ages from 20 to 25. The amount of benefit is \$5.79, to which the state adds \$1.93. This, though small, means the cost of midwife and the bare necessities of existence. All countries having compulsory insurance laws include a compulsory maternity benefit in their various sick funds. In Germany, in addition to the medical aid, there is six weeks' regular sick benefit, regardless of whether or not the mother is able to return to work. Hungary and Norway also give six weeks; Russia and Austria limit it to four weeks.

#### BENEFITS OF INSURANCE

From this brief summary of the various laws of social insurance in Europe, it is seen that there exists a tendency in these countries toward a complete group of laws which will protect the working community against industrial accidents, against sickness, will cover the loss of time and expense of maternity, will grant funeral expenses and pensions for partial disability and for complete invalidity, pensions for the widow and orphan when the bread winner is killed; gives a pension to early old age brought about by a life of toil and of physiologic old age when in natural course it brings the wage earner to a position of complete inability to work. The most comprehensive scheme is that of England, which has added to these insurances and pensions that of unemployment for a certain length of time, provided that said unemployment does not come from strikes or lockouts. There does remain in England, still, an option under certain circumstances of suing under the old liability laws, but this is seldom taken advantage of. Germany approaches nearest to this complete insurance scheme of England.

#### INDUSTRIAL INSURANCE IN THE UNITED STATES

In the United States about twenty-six states have accepted some form of workman's compensation law, and compensation acts were adopted in the following twenty-one states, in the order named: New York, Washington, Kansas, Nevada, New Jersey, California, Wisconsin, Ohio, Massachusetts, New Hampshire, Michigan, Maryland, Rhode Island, Arizona, West Virginia, Oregon, Texas, Iowa, Nebraska, Minnesota, Connecticut. In all these compensations the principals are elective, except those of New York and Washington, and the new acts of Ohio and California, which went into operation January 1, 1914. New York, California and Ohio amended their constitutions so as to admit the adoption of their compulsory acts. The first compensation act of New York State was rejected by its courts of appeals as unconstitutional, but since the consti-



tutional amendment adopted by the state, a compensation law has been in full operation since July 1, 1914.

New York, Washington, California and Ohio have adopted compulsory compensation acts; all the other states have adopted elective acts. The method of making the election varies in different states; in some states the employer is required to signify his acceptance of the law by an affirmative act, such as filing a written statement to that effect, with the specified board or official and by notifying his employees. In certain states the employer is presumed to have accepted the act unless he files a statement to the contrary.

In the Maryland law there are included, besides the accidental personal injuries, such disease or infection as may naturally and unavoidably result therefrom. The Massachusetts courts in 1914 decided that personal injury includes any injury or disease which arises out of and in the course of the employment which causes incapacity for work and thereby impairs the ability of the employee for earning wages. This has already included compensation for optic neuritis and lead poisoning and death from an already existing heart lesion. It is thus evident that occupational diseases are included under the Massachusetts law. These decisions will have far-reaching effect.

In the report of the commission of the American Federation of Labor and the National Civic Federation, from which these facts are drawn, it is stated that there seems to be an opinion among employers and employees in work which entails as a rule slight accidents that waiting periods are unfair; but among the workers and employers in hazardous employments waiting periods seem to be more a matter of indifference, provided, however, that for serious accidents and disability they are assured of a high ratio of compensation.

The amount of compensation varies in the different states, from 40 per cent to 66 $\frac{2}{3}$  per cent of the wages of the injured employees. In Washington the compensation averages about 40 per cent of the wages; in California, 65 per cent; in Nevada, 60 per cent; in Ohio, 66 $\frac{2}{3}$  per cent; in Texas, 60 per cent; in Wisconsin, 65 per cent; in New York, 66 $\frac{2}{3}$  per cent, and in all other states here named, 50 per cent.

The latest Wisconsin statute provides that in the case of the employee who is over 55 years of age compensation shall be reduced by 5 per cent; if over 60 years of age, compensation shall be reduced by 10 per cent; if over 65 years of age, by 15 per cent. The antithesis of this is in New York State, where, if the injured employee was a minor when injured, and that under normal conditions his wages would be expected to increase, the fact may be considered in arriving at this average weekly wage. Under this provision, compensation would be increased.

California has apparently worked out the most scientific schedule for the means of determining the percentage of disability, figuring it out on the nature of the physical injury or disfigurement, the occupation of the injured employee and his age at the time of such injury. Under such a statute a disability that interferes with the injured person carrying on his trade or occupation will be considered as involving a greater percentage of disability than a similar injury inflicted on a person engaged in an occupation not affected by the injury or affected to a less extent.

The method of administering the compensation acts is by some form of industrial accident board in Massachusetts, Connecticut, Ohio, California, Illinois, Michigan, Wisconsin, Iowa, Texas, Nevada, Oregon, West Virginia, New York and Washington. These boards are appointed by the governor of the state, and settlements between employer and employee are subject to the approval of the board to be effective. Some such board as this is a necessity, because otherwise fraud and imposition on the employees are possible, and in the present development of humanity are sure to occur.

There are four methods of insuring the employers to protect the employees against insolvency. As most payments are to be made weekly, instead of a lump sum, it is necessary that, even though an employer should be solvent when an accident occurs, the employee should be protected against possible future insolvency of the employer. The four methods adopted, therefore, are that employers whose solvency is approved by the

state board are permitted to carry their own risk, but others must take out the insurance in either a mutual insurance company or a stock company, or in the state insurance fund, the latter being administered by the state insurance commissioner and maintained by assessment on the employers electing to contribute to a state fund.

The cost of compensation acts, compared with the cost under the liability laws to the same employers, either in form of insurance payment or payments direct to the employees, given by 526 employers in ten different states, is that under the compensation act a total of \$1,215,690.50 has been paid, as compared with a similar period under the liability laws of \$730,857.24. The compensation laws finally bring about a reduction in the number of accidents through an increase of preventive methods and a lessening in the number of severe accidents.

Table 1 gives an excellent description of how the compensation law compensates, and is taken from the 1914 report of the Workmen's Compensation Commission of Missouri.

TABLE 1—WORKING OF COMPENSATION LAW

Approximate loss of 50,000 injuries per year borne by employer:	
Approximate medical aid in all cases.	\$258,500.00
Two-thirds of the approximate wage loss for disabilities lasting over two weeks .....	916,006.67
Approximately 200 deaths at an average of \$4,000 each.....	800,000.00
Total borne by employers.....	\$1,974,506.67
Difference borne by employee.....	\$ 825,493.33
Estimated as follows:	
Approximate wage loss of two weeks waiting period .....	\$367,490.00
One-third of approximate wage loss for disability lasting over two weeks .....	458,003.33
	\$825,493.33

A member of the Massachusetts Industrial Accident Board is quoted as saying: "By the reduction in the number of accidents and a lessening of their severity, hundreds of thousands of dollars in insurance premiums, now paid because of present conditions, will be saved; just as fire insurance premiums are most materially reduced for those who take steps to safeguard against fire."

#### DIGEST OF PROVISIONS IN STATE LAWS

Below is given a digest in detail of the various medical and surgical provisions of the state laws.

**ARIZONA:** No medical and surgical aid, except that personal representative is authorized in case of death to pay out of the compensation fund for reasonable medical attendance and burial of the decedent.

**CALIFORNIA:** Employer must furnish reasonable medical, surgical and hospital treatment for a period not exceeding ninety days.

**CONNECTICUT:** Employer must furnish reasonable medical and surgical aid during the thirty days immediately following the injury, but the injured employee may, at his option, refuse such aid and provide the same at his own expense; or if the employer fails to provide such aid promptly the injured employee may do so at the expense of the employer.

**ILLINOIS:** The employer shall provide necessary first aid, medical, surgical and hospital services for a period not longer than eight weeks, not to exceed, however, more than \$200. The employee may elect to secure his own physician, surgical or hospital services at his own expense.

**IOWA:** At any time during the first two weeks of incapacity an employer that is requested by the workman or any one for him, or if so ordered by the Iowa Industrial commission, shall furnish reasonable surgical, medical and hospital services, the amount not to exceed \$100.

**MARYLAND:** Such medical, surgical or other attendance or treatment, nurse and hospital services, medicines, crutches

and apparatus as may be required by the commission in an amount not to exceed the sum of \$150.

**MASSACHUSETTS:** Reasonable medical and hospital services and medicines, when needed, during the first two weeks after injury.

**MICHIGAN:** During three weeks after injury employer shall furnish or cause to be furnished reasonable medical and hospital services and medicines.

**MINNESOTA:** Employer must furnish such medical and surgical treatment and supplies, as may reasonably be required during a maximum period of ninety days. If employer is unable or refuses to furnish such services, he will be liable up to a maximum of \$100. If necessary, court may require employer to furnish additional service after the ninety days' period, with a total maximum of \$200.

**MISSOURI:** Practically makes the liability of the employer for medical aid unlimited, and in case he fails to furnish or tender the same, the employee or some one for him may make the employer liable therefor; allows special aid in all cases and in addition to all other compensation; allows the employer in the first instance to select the physician; requires the employer to pay for hospital service rendered by a public institution; limits all charges for medical aid to such as are reasonable.

**NEBRASKA:** Employer must furnish reasonable medical aid during the first twenty-one days after disability, but not to exceed the amount of \$200. Employer relieved from paying compensation for any aggravation of injury due to employee's refusal to accept medical aid.

**NEVADA:** No medical and surgical aid.

**NEW HAMPSHIRE:** No medical and surgical aid except that, in case of death without dependents, employer must pay for medical services and expenses of burial, the amount not to exceed \$100.

**NEW JERSEY:** During the first two weeks after the injury the employer shall furnish reasonable medical and hospital services and medicines, as and when needed, not to exceed \$50 in value, unless the employee refuses to allow them to be furnished by the employer.

**NEW YORK:** The employer shall promptly provide for the injured employee such medical, surgical or other attendance or nurses, hospital services, medicines, crutches and apparatus as may be required or be requested by the employee within sixty days after the injury.

**OHIO:** The state liability board of awards shall disburse and pay from the state insurance fund such amounts for medical, nurse and hospital services and medicines as it may deem proper, not to exceed the sum of \$200.

**OREGON:** The commission shall have authority to provide, under uniform rules and regulations, first aid to workmen who are entitled to benefits hereunder, together with medical and surgical attendance and hospital accommodations, the amount not to exceed \$250 in any one case.

**RHODE ISLAND:** During the first two weeks of injury employer shall furnish reasonable medical and hospital services and medicines when they are needed; amount of the charges for such services to be fixed, in case of failure to agree, by the superior court.

**TEXAS:** During the first week of injury the association shall furnish reasonable medical and surgical aid when needed and if it does not furnish these immediately as and when needed it shall repay all sums reasonably paid or incurred for same, provided that reasonable notice of injury be given to the association.

**WASHINGTON:** No medical aid.

**WEST VIRGINIA:** The commission shall pay for such medical and hospital services as it may deem proper, with a maximum of \$150, except where injured employee is entitled to the same through some contract connected with his employment or otherwise.

**WISCONSIN:** Employer must furnish such medical aid, including crutches and apparatus, as required at time of

injury and thereafter during a period of not to exceed ninety days; in case of employer's neglect or refusal he shall be liable for reasonable expense therefor incurred by employee.

Table 2 from the second annual report of the industrial commission of Wisconsin brings together in a comparative way the value of various compensations in the different states and the maximum amount of medical attendance.

TABLE 2.—VALUE OF VARIOUS COMPENSATIONS IN DIFFERENT STATES.

State—	Death, Amount.	Temporary		Med. Attend., Maximum No. Days.	Amount.
		Permanent Disability, 12 Weeks, Amount.	Total Disability Amount.†		
Wisconsin .....	\$2,194	\$3,250	\$90	90	....
Arizona .....	*2,400	3,330	69	..	....
California .....	1,682	5,045	75	90	....
Connecticut .....	1,814	2,700	58	30	....
Illinois .....	2,137	4,745	63	56	....
Iowa .....	1,691	2,065	58	..	....
Kansas .....	1,714	2,700	66	14	....
Maryland .....	*1,800	4,579	63	..	\$150
Massachusetts ...	1,591	2,511	58	14	....
Michigan .....	1,591	2,511	69	21	....
Minnesota .....	1,908	2,065	60	90	....
Nebraska .....	1,978	4,958	72	21	....
Nevada .....	2,339	2,214	72	..	....
New Hampshire...*	1,800	1,644	60	..	....
New Jersey.....	1,820	2,137	60	14	....
New York.....*	2,400	2,210	60	..	....
Ohio .....	2,350	6,099	88	..	250
Oregon .....	7,672	6,760	73	..	250
Rhode Island....	1,591	2,502	58	14	....
Texas .....	2,343	2,576	79	7	....
Washington .....	6,191	5,610	86	..	....
West Virginia...*	5,356	4,013	59	..	150
Average ....	\$2,446	\$3,373	\$81	..	....

#### RELATION OF ACCIDENTS TO THE INDUSTRIES.

Before discussing the relation of the medical profession in Europe and the United States to these social laws it is important that we should grasp in some measure the relation of industrial accidents to the industries, that we may appreciate what is the human wastage in industrial work.

In the September, 1908, number of the Bulletin of the Bureau of Labor of the United States Frederick L. Hoffman published some statistics on industrial accidents. Taking the total population of the United States at the present day as 100,000,000 and figuring by the ratios given by Hoffman, there are about 30,000,000 occupied males of 15 years of age or over. Using still further the ratios of Hoffman, it is fair to conclude that there are somewhere between 35,000 and 40,000 fatal accidents a year and Hoffman believes it is a safe estimate that half of the accidents are the immediate results of dangerous industries or trades. This is considered a very conservative estimate. Rubinow gives the statistics of eleven European countries with 2,000,000 industrial accidents, and of these 22,000 were fatal.

Industries presenting the greatest percentage of accidental danger are well known. Mining, metallurgy, metal work, building and constructing and transportation in France claimed about two-thirds of all industrial accidents. These are exactly the industries which are especially developed in the United States.

In Minnesota a careful investigation ending July 31, 1910, recorded 10,463 accidents and 342 fatal ones, or 30 accidents to each fatality; in Massachusetts, from July 1, 1912, to June 30, 1913, there were 90,168 accidents, 474 of which were fatal, or one to every 190; in Wisconsin, out of 7,186 accidents reported in 1905, there were 401 fatal accidents, or 36 accidents for each fatality. It is evident that no accurate statement can be made, but there is no doubt from these figures that a very conservative estimate would be of about 20,000 fatal industrial accidents a year out of certainly 2,000,000 accidents.

\*Lump sum payments.

†Present worths of weekly or monthly payments. Where payments continue till death, present worths are based on expectancy of life. For total permanent disability two-thirds of the normal life is assumed.



It is interesting to note also where statistics place the responsibility for accidents. The German statistics give Table 3.

TABLE 3.—RESPONSIBILITY FOR ACCIDENTS IN GERMANY.

Cause—	Percentage of All Accidents— Due to Cause Specified.		
	1887.	1897.	1907.
Fault of employer.....	20.47	17.30	12.06
Fault of injured employee.....	26.56	29.74	41.26
Fault of both employer and employee.....	4.61	4.83	0.91
Fault of fellow employee.....	3.40	5.31	5.94
General hazard of industry.....	44.96	41.55	37.65
Other causes (chance, etc.).....		1.27	2.18

Continuing these still further, the accidents due to the employers were as given in Table 4.

TABLE 4.—CAUSES OF ACCIDENTS IN GERMANY.

Accidents Due to—	1887. Per Cent.	1897. Per Cent.	1907. Per Cent.
Defective apparatus.....	7.28	7.15	5.40
Absence of safety appliances....	11.03	7.82	4.69
Absence of proper regulations..	2.16	1.84	1.97
	20.47	16.81	12.06

Table 5 compares these with the fault of the employee.

TABLE 5.—ACCIDENTS IN GERMANY DUE TO FAULT OF EMPLOYEE

Accidents Due to—	1887. Per Cent.	1897. Per Cent.	1907. Per Cent.
Lack of skill, inattention, etc..	17.09	20.85	28.96
Failure to the existing protective appliances.....	1.82	1.92	2.22
Actions contrary to existing regulations.....	5.35	5.44	9.48
Actions of horseplay, mischief, intoxication.....	2.05	1.10	0.55
Unsuitable clothing (aprons, neckties, etc.).....	.25	.49	.05
	26.56	29.89	41.26

Comparing some American statistics with these, Table 6 is taken from Miss Eastman's investigation in Pittsburgh, which gives responsibility for 377 industrial accidents resulting in death.

TABLE 6.—CAUSES OF 377 FATAL INDUSTRIAL ACCIDENTS IN PITTSBURGH.

Causes Attributed—	Number of Accidents.	Per Cent of Total.
Cause attributed solely to employers or those who represent them in positions of authority.....	113	29.97
Causes attributed solely to those killed or their fellow workmen.....	105	27.85
Cause attributed to both the foregoing classes.....	60	15.91
Cause attributed to neither of the foregoing classes.....	99	26.27
	377	100.00

These statistics are interesting as showing the uncontrollable human elements of negligence, carelessness and inexperience on the part of employer and employee, which, added to the ratio of physical fatigue on the part of the worker, produce a steady ratio of human wastage, the sum total of which in the United States reaches enormous figures.

The statistics of Austria from 1897 to 1901 are the most accurately prepared statistics that are to be found.

TABLE 7.—AUSTRIAN STATISTICS.

Result of Injury—	No.	Per Cent.
Loss of left arm.....	248	.26
Loss of right arm.....	360	.38
Fracture of arm.....	527	.55
Fracture of forearm.....	2,214	2.32
Other injuries to arm.....	3,539	3.72
All injuries to arm.....	6,888	7.23
Loss of left hand.....	186	.20
Loss of right hand.....	231	.24
Fractures of bone of hand.....	352	.37
Other injuries of hand.....	5,286	5.55
All injuries to hand.....	6,055	6.36
Loss of one finger, right hand.....	675	.71
Loss of one finger, left hand.....	593	.62
Loss of two or more fingers, right hand.....	947	.99
Loss of two or more fingers, left hand.....	922	.97

Loss of part of one finger, right hand.....	899	.94
Loss of part of one finger, left hand.....	859	.90
Stiffness of fingers.....	742	.78
Other injuries to fingers.....	25,721	27.00

Total injuries to fingers.....31,358 32.91

Total injuries to upper extremity.....44,301 46.50

Loss of one leg.....	537	.56
Loss of both legs.....	24	.03
Fracture of upper leg.....	857	.90
Fracture of lower leg.....	3,772	3.96
Injuries of arch of foot.....	1,808	1.90
Other injuries of leg or foot.....	15,170	15.92

All injuries to leg or foot.....22,168 23.27

Loss of toes.....	210	.22
Injuries to toes.....	3,054	3.20

Total injuries to toes.....3,264 3.42

Total injuries to lower extremity.....25,432 26.69

Loss or injury to arm and leg.....	580	.61
------------------------------------	-----	-----

Total injuries to upper or lower extremity.....70,313 73.80

Loss of one eye.....	1,718	1.80
Loss of one eye and injury to the other.....	228	.24
Loss of both eyes.....	51	.05
Injury to eye.....	3,191	3.35
Injury to both eyes.....	224	.24

Total injuries to eyes.....5,412 5.68

Injury to head.....	3,365	3.53
Injury to shoulder.....	1,514	1.59
Fracture of collar bone.....	742	.78
Fracture of ribs.....	1,415	1.49
Injuries to trunk.....	4,355	4.57
Ruptured.....	860	.90
Injuries to several parts of body.....	4,537	4.76
Internal injuries.....	1,155	1.21
Concussion of brain.....	502	.53
Miscellaneous.....	510	.55
Traumatic neurosis.....	204	.21
Suffocation.....	219	.23
Drowning.....	166	.17

Injuries to head and trunk.....19,544 20.52

95,269 100.00

## SUMMARY OF SERIOUS ACCIDENTS

Loss of:	No.	Per Cent.
Arm.....	608	.64
Hand.....	417	.44
Fingers.....	4,895	5.14
Leg.....	561	.59
Toes.....	210	.22
Eyes.....	1,997	2.10

Total loss of parts.....8,688 9.13

Fractures:	No.	Per Cent.
Arm and forearm.....	2,741	2.87
Hand.....	352	.37
Leg.....	4,629	4.86
Collar bone.....	742	.78
Ribs.....	1,415	1.49

Total fracture.....9,879 10.37

TABLE 8.—PERMANENT DISABILITIES ACCORDING TO AUSTRIAN STATISTICS.

Injuries—	Total Number of Cases	Cases Resulting in Permanent Disability	Per Cent.
Fracture of arm.....	527	290	55
Fracture of forearm.....	2,114	1,094	51
Other injuries of arm.....	3,539	1,189	34
Fracture of bones of hand.....	352	152	43
Other injuries of hands.....	5,286	1,806	24
Stiffness of fingers.....	742	709	96
Other injuries of fingers.....	25,721	7,143	28
Fracture of leg.....	4,629	2,910	63
Injury of arch of foot.....	1,808	792	44
Other injuries of leg or foot.....	15,170	3,384	22
Injury to eyes.....	3,415	2,174	64
Injuries to head.....	3,365	1,183	35
Injuries to shoulder.....	1,514	819	54
Fracture of collar bone.....	742	372	50
Fracture of ribs.....	1,415	460	33
Injuries to trunk.....	4,355	1,502	34
Ruptures, etc.....	860	599	70
Injuries to several parts.....	4,537	1,507	33
Internal injuries.....	1,155	232	20
Concussion of brain.....	502	186	37
Miscellaneous.....	527	184	35
Traumatic neurosis.....	204	173	85
	82,479	28,360	34

Looking at it from another point of view, as to the results of injuries, the disability caused and the proportion of accidents causing the disability is interesting. Thus in 95,269 accidents there were 3,071 fatal ones; there were 91,398 non-fatal ones, and there were 8,688 accidents which produced the total loss of some part of the human body, that is, of arms, or hands, or fingers, or legs, or toes, or eyes. But there were 36,911 which resulted in permanent disability. Table 8 shows this in detail and shows the astonishing result that 34 per cent of all injuries, without loss of parts, are permanent.

#### AMPUTATIONS AND FRACTURES.

In all these fee schedules the amputation is made the main operation, compared to the fracture, and is paid a higher rate of compensation to the medical man, when in reality, while it produces an evident loss of part and an evident disability which is permanent, the fracture requires greater skill, greater care and greater responsibility in caring for it, and should be considered the injury possessing the greater responsibility and the greater chance of returning injured workmen to a greater degree of usefulness. Table 9 shows the distribution of accidents occurring and the kind and degree of disability.

TABLE 9.—DISTRIBUTION OF ACCIDENTS; KIND AND DEGREE OF DISABILITY.

Country and Year	Total Number of Accidents	Fatal Accidents		Permanent Disability				Temporary Disability	
		Number	Per Cent.	Total Number	Per Cent.	Partial Number	Per Cent.	Number	Per Cent.
Austria, 1906* .....	26,639	885	3.32	403	1.51	9,793	36.76	15,558	58.41
Belgium, 1908 .....	156,499	510	.33	†	†	2,523	1.61	153,466	98.06
France, 1906 .....	404,318	1,997	.49	†	†	5,619	1.39	391,319	98.12
Germany, 1908* .....	142,965	9,856	6.26	1,160	.81	57,410	40.11	74,539	52.77
Italy, 1902 .....	57,617	430	.70	32	.06	2,716	4.71	54,439	94.53
Russia, 1906 .....	136,049	995	.73	114	.08	16,525	12.14	115,403	87.05
Spain, 1907 .....	30,472	207	.68	19	.06	80	.27	30,164	98.25
Sweden, 1906 .....	15,041	249	1.66	†	†	1,228	8.16	13,444	89.38

\*Accidents compensated only. †Not separately stated; included with partial disability.

#### DURATION OF DISABILITY.

The statistics in Table 10 show the duration of injuries resulting in temporary disability in Italy.

TABLE 10.—DURATION OF INJURIES RESULTING IN TEMPORARY DISABILITY IN ITALY.

Accidents and Disability—	Number	Per Cent.
Total number of accidents.....	57,617	100.00
Accidents resulting in death.....	430	.75
Permanent disability .....	2,748	4.78
Temporary disability .....	54,439	94.43
Lasting 6 to 10 days.....	14,588	25.32
Lasting 11 to 15 days.....	13,078	22.70
Lasting 16 to 20 days.....	8,442	14.65
Lasting 21 to 30 days.....	8,707	15.11
Lasting 31 to 60 days.....	7,356	12.77
Over 60 days.....	2,268	3.93

It is noticeable that 48 per cent of injuries do not last over fifteen days, after all, injuries lasting less than five days have been omitted; another 30 per cent do not extend beyond thirty days, and the remaining 20 per cent present the serious economic problems.

Table 11, from Russia, is equally interesting. Again, 48 per cent do not last over fifteen days, and 18 per cent more over twenty-eight days.

TABLE 11.—RUSSIAN STATISTICS.

Accidents and Disability—	Number	Per Cent.
Total number of accidents in industry.....	57,196	100.00
Accidents resulting in:		
Death .....	367	.64
Permanent disability .....	10,098	17.66
Temporary disability .....	46,731	82.70
Lasting 7 days and under.....	13,481	23.57
Lasting 8 to 14 days.....	14,127	24.70
Lasting 15 to 21 days.....	6,922	12.10
Lasting 21 to 28 days.....	3,919	6.85
Lasting 29 to 63 days.....	6,942	11.35
Lasting 64 to 91 days.....	1,060	1.85
Lasting over 91 days.....	730	1.28

Rubinow sums up the accidents in the United States that on an estimate of two millions accidents in a year, even if only

20 per cent of the accidents are more or less serious, this would mean 400,000 serious cases. On the basis of that estimate, we may assume, until all statistics make such assumption unnecessary, that there occur in the United States annually about 30,000 fatal industrial accidents, about 200,000 accidents leading to permanent disability, of which nearly 60,000 are cases of actual loss of part of body, and about 100,000 resulting in disability of under 25 per cent, and another 50,000 in disability of from 25 to 50 per cent, and the remainder causing disability of over 50 per cent. In addition, about 170,000 accidents are serious, in that the disability lasts over three months and eventually they result in complete recovery, especially if economic conditions favor it.

#### RISK OF ACCIDENT AND SICKNESS.

Industrial accidents as an economic risk to the workman mean that from 5 to 6 per cent of those engaged will suffer each year from some form of accident, slight or severe. On the other hand, sickness affects annually from 40 to 50 per cent of the wage earners. These figures are certainly very striking. Again, the statistics in Austria and Germany are the most accurate. In Austria, for instance, there were 3,044,129 persons

included in the sick funds in 1907, and in the same year 53.3 per cent of these became ill, showing seventeen days for each case of sickness. In Germany there were, in 1908, 5,206,143 cases of sickness among 12,324,094 persons insured, giving 103,894,299 days of illness and averaging twenty days per case of sickness. Tables 12 and 13 show clearly the influence of age and sex in the incidence of sickness in these sick funds, the first taken from the Austrian statistics and the second from the German statistics of Leipzig.

TABLE 12.—INFLUENCE OF AGE AND SEX.

Age	Cases of Sickness Per 100 Persons Per Annum		Days of Disability (Per Person) Per Annum	
	Male	Female	Male	Female
15 .....	42.9	42.2	5.5	6.4
20 .....	43.8	38.0	6.1	6.4
25 .....	44.0	38.0	6.3	6.9
30 .....	45.6	41.3	6.8	7.9
35 .....	47.4	44.3	7.6	9.0
40 .....	49.2	46.3	8.4	9.7
45 .....	52.9	49.5	9.6	10.7
50 .....	56.2	50.7	11.0	11.5
55 .....	58.0	51.6	12.3	12.0
60 .....	63.6	52.6	15.1	13.9
65 .....	67.7	56.3	19.4	16.3
70 .....	70.8	61.6	23.9	21.5
75 .....	77.7	65.3	31.8	24.5
80 .....	75.3	67.6	37.7	44.7
All ages .....	47.4	41.9	7.8	7.9

TABLE 13.—INFLUENCE OF SEX AND OCCUPATION.

Industries—Males—	Cases of Sickness Per 100 Persons per Annum	Sick Days Per 1 Person per Annum
	Per 100 Persons per Annum	Per 1 Person per Annum
Stone working .....	58.2	17.5
Cement and lime.....	65.8	13.6
Building trades .....	51.7	11.7
Metal working .....	49.6	11.1
Printing, publishing, etc.....	32.4	11.1
Glass, porcelain and pottery.....	44.5	10.8
Paper .....	39.4	10.9
Chemical industry .....	49.4	10.7



Leather and similar products.....	37.7	10.7
Agriculture and forestry.....	46.9	10.2
Transportation .....	44.8	9.8
Food and drink.....	43.4	9.6
Wood and cut materials.....	38.8	9.2
Fats, oils, varnishes, etc.....	41.5	9.1
Gas works .....	59.9	9.0
Textiles .....	40.5	8.9
Hotels and restaurants.....	32.5	8.8
Clothing and cleaning.....	32.2	8.6
Musical and scientific instruments.....	31.7	8.1
Hides, leather, etc.....	36.0	7.7
Engineers and firemen.....	35.3	7.4
Office employes .....	21.6	5.8

## Females—

Textiles .....	69.9	19.3
Paper .....	55.2	16.3
Printing and publishing.....	50.4	15.8
Agriculture and forestry.....	60.8	14.2
Clothing and cleaning.....	41.0	12.4
Hotels and restaurants.....	40.9	12.2
Office employes .....	21.4	7.0

It is noticeable from Table 12 that fewer women are sick, but each woman averages longer than the men at the same age, until the age of 50 years is reached; then after this age more men are sick and men average a longer time for each illness.

In the "Memorial of Industrial Diseases" it is estimated that the total loss to the American working classes due to illness amounts to \$366,000,000 of lost wages annually and \$285,000,000 for medical aid, etc., making a total of \$651,000,000 for the 33,500,000 wage earners.

## MALINGERING.

No state or national insurance against accident or sickness can be conceived in which the human element of malingering will not appear. Under the old common law of accidents, the amount of deliberate fraud to obtain large verdicts from the jury by simulating severe injuries is common knowledge. Malingering has increased under the compensation acts of England and is being steadily fought in that country. According to Dr. Ferdinand Friedensburg, the amount of malingering and the extent to which the German workman has been debauched by the lax application of the insurance laws have become an increasingly disgraceful spectacle. Malingering must be differentiated clearly from hysteria, for the first is the deliberate fraud of simulating disease for the sake of obtaining greater compensation by cheating, and the latter is but the expression of the loss of the normal mental or nervous equilibrium produced by intense mental or physical strain, which may, in itself, be sufficient cause for full compensation. Malingering is a grave problem, for each successful case stimulates further increase of the evil.

## PROVISIONS FOR MEDICAL AID.

In most countries in Europe, provision for medical aid seems to be fairly generous. In Germany, the minimum requirements are that the fund furnish medical and surgical attendance, free medicine for twenty-six weeks, and such therapeutic supplies as eye-glasses, trusses, bandages, etc. Whenever it is deemed necessary, in severe cases, the fund is to substitute hospital treatment for the home treatment.

Most of the countries in Europe, including Great Britain, are equally generous to the workmen in their provision for medical and surgical aid. Russia, however, differs materially from the other countries. Medical aid to the workmen had been in vogue in that country many years before workman's compensation; it was established in 1866 for manufacturers and in 1886 for mining, and had always been considered there as a direct responsibility of the employer.

## STRUGGLE OF THE EUROPEAN PROFESSION.

The value of medical organization is well shown in the struggle of the German physicians in these economic questions. Without these organizations the physicians would, as individuals, be entirely helpless against the strongly entrenched lay boards of the sickness societies. Table 14 is of interest as showing in figures these efforts and their results.

TABLE 14.—CONFLICTS BETWEEN PHYSICIANS AND SICKNESS SOCIETIES.

Decided in favor of the doctors.....	921
In favor of sickness societies (for the time being).....	11
Still pending, May 1, 1911.....	90
Total number of conflicts.....	1,022

When the struggle has reached a deadlock, the physicians have refused to treat members of the insurance societies as such and insisted on treating each individual patient as a private patient. This has caused the societies to import other physicians into the field in various cities; but this expedient has not always been successful, because the type of physician brought in has not been so good as the local physician who had formerly done work for the societies, and frequently the societies have been unable to obtain sufficient physicians to do the work.

## FREE CHOICE OF PHYSICIAN.

In general, the most intense struggle has occurred over the question of free choice of physician by the patient. This was granted in Leipzig and in some other cities; but in Dresden, where the societies seem to have the upper hand, the physicians are in direct contract to the insurance societies. It is claimed that the absolute free choice of physicians brings the amount of medical remuneration up to such a proportion of the whole funds of the society that it becomes unbearable.

## DEVELOPMENTS IN GERMANY.

In 1903, when the new insurance law was passed in Germany, physicians endeavored to obtain in the law many of the rights for which they had struggled. They were but partially successful. Finally, ten years later, there was a general meeting of the profession in Berlin. The meeting was called by the president of the National Federation of Medical Societies, representing a membership of 21,207. It was agreed at this meeting that after January 1, 1914, the insured population of Germany, except in Dresden, Hamburg and Berlin, should not receive any treatment from physicians through the insurance societies, unless these societies acceded to the demands of the physicians or unless the government saw fit to intervene. It was definitely stated that there was no intention on the part of the physicians to refuse medical services to the members of insurance societies as individual patients; the refusal was to treat them as members of the societies. The differences between the physicians and the societies had to do with the right of physicians to representation on the ministering boards of the insurance societies, the right of patients to choose physicians whom they prefer, the method of organization and of administration of the medical boards, and other relations and contracts between physicians and insurance societies. The compensation asked for was a per capita fee of five marks per patient per year. This was not to include night visits, attendance on confinements or abortions, treatment of persons who have only a legal but no medical claim on sick benefits, or the treatment of families of insured persons. For all of these services special arrangements were to be made.

The Federation of Insurance Societies in Germany refused to accede to the demands of the physicians, and refused to recognize the right of physicians to organize the profession for the protection of their individual rights. The organization of the physicians was so effective that only 150 physicians out of the 32,000 in the empire could be induced to accept positions under the insurance societies, against the advice of the Leipzig League.

## ENGLAND'S PROBLEM.

In England, previous to the passage of the national insurance act in 1912, private practice, lodge practice, contract practice and free dispensaries were all in existence. As insurance societies increased in number and power, they forced the physicians to treat large numbers of insured persons at absurdly small rates, and refused to recognize the professional organizations in discussion of the conditions. The medical profession in England opposed bitterly the insurance act, and sacrificed nearly one-half million dollars in so doing. They de-

manded as a minimum that the income limit of those insured should be \$10 a week, that there should be free choice of doctor by the patient, subject to consent of doctor to act, administration of the medical and maternity benefits by local health committees and not by the friendly societies, adequate remuneration of the medical practitioners, to be paid in the manner preferred by the majority of the medical profession in each district, and adequate representation of the medical profession on the administration bodies, central and local, set up for the working of the insurance scheme. The physicians did not obtain the limitation according to income which they sought. They did obtain freedom from control by the friendly societies, and they obtained, also, freedom of choice of the physician by the patient, this subject to the consent of the physician to act.

After about eighteen months, the effect of the insurance act in England has been that there were then on the panels or lists of physicians working under the act 20,000 of the 22,500 physicians in general practice in Great Britain. The government had distributed among them \$20,500,000, an average of \$1,150 for each physician. It is claimed that the insurance act has raised the level of the remuneration of the profession; that the average income of physicians has been increased by from \$750 to \$2,000 a year. It seems to be the general opinion that individual physicians may have suffered and received less remuneration under this act than they formerly received under some special form of contract work; but the general amount of moneys paid to the profession working among the industrial classes has greatly increased, and the average incomes of the physicians have evidently much increased. Conversely, this insurance act has been a good thing for the community, because previously there had been millions of people who had no medical attendance at all.

#### THE PLAN IN DENMARK.

In Denmark the sickness societies often, as in Copenhagen, employ district medical officers, the insured having no choice of doctor unless there by a supplementary physician employed to assist in the work. The number of patients which each district medical officer may have under his care varies greatly, and in some instances it would seem as if the evil of too many patients for such a physician occurred under these circumstances.

#### THE EFFECT IN THE UNITED STATES.

The economic effect of these laws in the United States on the profession in general has been that the total income of the average surgeon doing work in industrial centers has been raised. Other surgeons who have had unusually good contract positions with certain large firms have suffered greatly in the reduction of their income, because in many instances they have previously received fees which under the compensation laws no commission or insurance company will pay per day or office visit for services to most workmen. Some laws contain the clause that charges for medical and surgical services shall be reasonable; others, that they shall be limited to such charges as prevail in the same community for injured persons of a like standard of living.

There is in this country a tendency to criticize the cost of medical service under the compensation laws in the various states. The following statistics show the cost abroad over a number of years and the relation of medical fees to other expenses and to total expenditure. In Germany, according to Gibbon, where for the first thirteen weeks the sickness societies care for both accidents and sickness, the Leipzig District Society shows that in 1888 the payment for medical services was 19 per cent of the whole; in 1893, 20 per cent; 1898, 21 per cent; 1903, 21 per cent; 1908, 22 per cent; 1910, 21 per cent.

It is interesting to note further that the average cost per member of medical services in all the German societies in 1888 was 58 cents; in 1893, 75; in 1898, 83 cents; in 1903, \$1; in 1908, \$1.37, and in 1910, \$1.45. Gibbon mentions that the increase has been due partly to the extension of insurance to more and more members of the community. The doctor has had to press more strenuously for a living wage from his in-

surance patients; at the same time he has organized himself sufficiently well to press with a fair degree of success. Some part of the rise in remuneration has been nominal rather than real.

In Denmark, Table 15, quoted from Gibbon, gives the increased proportion of the total expenditure of sickness societies spent on medical services:

TABLE 15.—INCREASE OF EXPENDITURE OF SICKNESS SOCIETIES FOR MEDICAL SERVICE.

	1893	1901-1906
	Per Cent	Per Cent
Payments to doctors and for conveyance.....	27.7	35.4
Medical and surgical requirements.....	12.7	12.1
Hospital treatment .....	5.3	8.7
Money benefit .....	45.6	36.5
Administration .....	8.7	7.3
	100..	100.

The increase is due in a large measure to the increased number of persons insured, especially women and persons of small means. The percentage of total expenditure paid to doctors for treatment in 1909 by the societies in Copenhagen and Frederiksberg was 22 per cent; by the societies in provincial towns, 33 per cent; by the societies in the island rural districts, 48 per cent; by the societies in the Jutland rural districts, 57 per cent; average by all societies, 37 per cent. These statistics of Denmark are particularly interesting, as they give the percentage of expenditure for medical service by societies located in cities, in provincial towns, and in country districts, made up of mainland and islands. Often in these districts there are large areas of land with very few physicians in which mileage estimates come in to a very large extent.

Tables 16 and 17, from Austria and Germany, from the twenty-fourth annual report of the Commissioner of Labor, are interesting.

TABLE 16.—RATIO OF VARIOUS BENEFITS TO TOTAL BENEFITS IN SICKNESS INSURANCE SOCIETIES, AUSTRIA, 1906.

Societies—	Per Cent.
Sick benefits .....	58.0
Medical assistance .....	18.3
Medicine .....	13.5
Hospital treatment .....	7.6
Funeral benefits .....	2.6
Total .....	100.

TABLE 17.—PERCENTAGE OF VARIOUS KINDS OF BENEFITS PAID, SICKNESS INSURANCE SOCIETIES, GERMANY, 1907.

	Per Cent.
Physicians .....	23.11
Medicines .....	14.66
Sick benefit .....	44.33
Lying-in benefit .....	2.01
Death benefit .....	2.60
Hospital cost .....	13.21
Care of convalescents.....	.08
Total .....	100.

It is evident from these statistics that the percentage of medical expenses in any compensation scheme must be considered as a certain percentage of the total expenditures, for such insurance. It is not just to claim that medical fees are too high and therefore must be reduced, because the fee of the doctor is overloaded with various charges and lumped under the name medical.

In an interesting discussion of medical fees in the report of the American Federation of Labor and National Civic Federation, various state commissions are quoted and the general tendency is to compare the cost of medical compensation with the cost of compensation amounts paid to the workman, as, for instance, in the second annual report of the Industrial Commission of Wisconsin it is stated that the cost of medical attendance, including hospital and nurse hire, is in excess of 50 per cent of the indemnity. That is, for each dollar paid to the injured workman in compensation, an additional 50 cents is paid to the doctor for medical attendance, but it is also definitely stated that medical attendance includes hospital and nurse hire.

For Massachusetts, one company reports that on a wide experience the amount for medical expense is 48.8 per cent



of the amount paid to workmen; another company gives 29 per cent, and still another 40 per cent. One company reported to this commission that the amount paid for medical services in Massachusetts was 29 per cent, in Illinois 38, and in New Jersey 20 per cent.

JUST FEES FOR PROFESSIONAL SERVICE

That there is a general endeavor among surgeons, working under the compensation laws, to overcharge is absolutely false. That a few members of the profession have greedily endeavored to obtain more than they deserved is undoubtedly true, and any referee board of physicians or surgeons to which these claims have been referred has been the first to condemn the excessive amounts claimed.

Table 18 gives a just method of dividing the various items in estimating surgeons' fees.

TABLE 18.—A JUST METHOD OF DIVIDING THE VARIOUS ITEMS IN ESTIMATING SURGEONS' FEES.

	Dis- trict	Fac- tory	Build- ing Trades	Trade Guild	Pri- vate Friendly	All Socie- ties
Percentage of Total Expenditures—						
Sick benefits.....	45.5	53.0	34.9	49.0	55.7	50.0
Medical assistance..	17.1	15.0	21.0	14.8	15.0	15.7
Medicines .....	11.3	14.1	9.2	10.7	9.6	11.7
Cost of hospital serv.	8.2	4.4	26.9	8.1	5.0	6.6
Funeral expenses and benefits.....	1.9	2.1	1.3	2.4	3.0	2.2
Total benefits.....	84.0	88.6	93.3	85.0	88.3	86.3
Managem't expenses.	12.4	0.5	3.2	12.7	10.2	8.7
Other expenditure..	3.6	10.9	3.5	2.3	1.5	5.0
Percentage of Total Income—						
Sick benefits.....	45.4	55.6	39.4	47.6	52.6	49.9
Medical assistance..	17.1	15.7	23.7	14.4	14.1	15.9
Medicines .....	11.3	14.8	10.4	10.4	9.0	11.6
Cost of hospital serv.	8.1	4.6	30.4	7.9	4.8	6.6
Funeral expenses and benefits.....	1.8	2.3	1.4	2.3	2.8	2.2
Total benefits.....	83.7	93.0	105.3	82.6	83.3	86.0
Managem't expenses.	12.4	0.5	3.6	12.3	9.7	8.7
Other expenditures..	3.6	11.5	4.0	2.2	1.4	5.0

This table shows the rates of various items of expenditure to total in sickness insurance societies in Austria, 1906 (Frankel and Dawson).

The state sanctions the practice of medicine as an individual privilege and demands that all acts of a physician shall be individual, individual in his charges, individual in his services. It is a personal relation which the state demands shall be given in a personal matter. Under contract practice this relationship ceases or is so modified that it loses the best elements of personal service. Moreover, the physician or surgeon realizes that under contract he is liable to be pushed to the commercial limit, irrespective of services given; that he is soon required, because of excess of number of patients and excess of work, to give in return a deteriorated service, for he cannot give the proper attention, the length of time, and hence the excellence of service that should be given by doctor to patient. This is a noticeable evil in lodge practice in this country.

It is well for employers and industrial boards to remember that there are laws of diminishing returns for professional services as in other economic conditions. There is often much economy in a high priced surgeon. It is often noticeable that pus and politics go together; and he who shaves the medical fee piles upon compensation expenses. A stingy man hires a poor surgeon and begets many infections and much disability. Commissioner Darlington of New York has recently drawn attention to the large amount of avoidable infections among injured workmen, causing permanent, partial or total disability. The already quoted experience of one firm in Bavaria is pertinent at this point; \$8,000 were spent in the highest priced medical fees and \$160,000 were saved in compensation expenses.

STATE MEDICAL ASSOCIATIONS.

In an endeavor to obtain information concerning the working of the compensation acts in the various states and to obtain an opinion on the amount of fees paid for services to workmen earning \$1,000 a year or less, the Judicial Council wrote to the state secretaries of all the component associations of the American Medical Association. Thirty answers were returned to these inquiries. As a criterion for judgment, the fee bill which was in vogue in New York State during the year July 1, 1914, to July 1, 1915, was taken and sent with each letter.

TABLE 19.—MEDICAL AND SURGICAL SCHEDULE OF RATES.

Treatment or Injury	SPECIFIC INJURIES.						
	New York†			California.	Oregon.	Ohio.	West Virginia.
	A Flat Rate, Including First Aid, Operation, and Full Treatment.	B Operation Only.	C Total Limit for Full Subsequent Treatment.				
<i>Amputations—</i>							
Hip .....	\$75.00	\$50.00	\$25.00	\$75.00	\$75.00	\$75.00	\$30.00 to \$50.00
Thigh .....	50.00	35.00	15.00	40.00	50.00	50.00	15.00 to 25.00
Foot .....	50.00	35.00	15.00	25.00	40.00	30.00	.....
Leg .....	40.00	25.00	15.00	25.00	40.00	25.00	15.00 to 25.00
Shoulder joint.....	55.00	40.00	15.00	40.00	50.00	50.00	15.00 to 25.00
Arm, forearm or hand.....	40.00	25.00	15.00	25.00	40.00	25.00	15.00 to 25.00
Metatarsal or metacarpal—one.....	20.00	10.00	10.00	.....	.....	10.00	15.00
Metatarsal or metacarpal—two or more	25.00	15.00	10.00	.....	.....	15.00	.....
Finger or toe.....	15.00	5.00	10.00	5.00	.....	5.00	2.50 to 5.00
Fingers or toes—two or more.....	20.00	10.00	10.00	10.00	10.00	10.00	2.00 each
Ankle joint.....	40.00	25.00	15.00	25.00	40.00	25.00	.....
Knee joint.....	50.00	35.00	15.00	40.00	40.00	35.00	15.00 to 25.00
Elbow joint.....	40.00	25.00	15.00	.....	40.00	25.00	15.00 to 25.00
Wrist joint.....	40.00	25.00	15.00	25.00	40.00	25.00	15.00 to 25.00
<i>Fractures—</i>							
Upper arm.....	20.00	15.00	5.00	25.00	30.00	15.00	10.00 to 20.00
Forearm—one bone (shaft).....	15.00	10.00	5.00	10.00	25.00	12.50	10.00 to 20.00
Forearm—both bones (shaft).....	20.00	10.00	10.00	25.00	35.00	12.50	10.00 to 20.00
Forearm—Colles' .....	25.00	15.00	10.00	.....	.....	15.00	.....
Femur .....	30.00	20.00	10.00	25.00	50.00	25.00	15.00 to 30.00
Lower leg—one bone.....	20.00	10.00	10.00	10.00	20.00 F. to 30.00 T.	12.50	10.00 to 25.00
Lower leg—both bones.....	25.00	15.00	10.00	25.00	40.00	15.00	10.00 to 25.00
Jaw .....	20.00	10.00	10.00	10.00	20.00	10.00	7.50 to 15.00
Ribs—one or more.....	10.00	5.00	5.00	5.00	10.00	5.00	5.00
Patella .....	30.00	20.00	10.00	15.00	40.00	20.00	10.00 to 50.00
Pubic bone } or Pelvis .....	15.00	2.00	13.00	10.00	.....	.....	.....
Acetabulum.....	50.00	30.00	20.00	.....	50.00	30.00	.....
Metatarsal or metacarpal.....	5.00	2.00	3.00	5.00	10.00	5.00	2.00 to 5.00
Fingers—one or more.....	5.00	2.00	3.00	.....	10.00	5.00	2.00 to 5.00
Toes—one or more.....	10.00	5.00	5.00	.....	10.00	5.00	2.00 to 5.00
Coccyx .....	15.00	2.00	13.00	.....	.....	10.00	.....

Treatment or Injury	SPECIFIC INJURIES.						
	New York†			California.	Oregon.	Ohio.	West Virginia.
	A Flat Rate, Including First Aid, and Full Treatment.	B Operation Only.	C Total Limit for Full Subsequent Treatment.				
Sacrum .....	15.00	2.00	13.00	.....	.....	10.00	.....
Sternum .....	10.00	5.00	5.00	.....	.....	10.00	.....
Spine .....	30.00	10.00	20.00	.....	.....	.....	.....
Lacrimal bone.....	10.00	5.00	5.00	.....	.....	.....	.....
Malar bone.....	10.00	5.00	5.00	.....	.....	5.00	.....
Scapula .....	20.00	10.00	10.00	15.00	25.00	12.50	5.00
Clavicle .....	15.00	5.00	10.00	15.00	20.00	12.50	5.00 to 7.50
Nasal bones.....	10.00	5.00	5.00	10.00	10.00	5.00	3.00
Compound fracture.....	25% extra	.....	.....	50%	.....	25%	.....
Operation for wiring of bones or plating .....	50% extra	.....	.....	.....	.....	100%	.....
<i>Dislocations—</i>							
Shoulder .....	15.00	5.00	10.00	.....	20.00	10.00	10.00
Elbow .....	10.00	5.00	5.00	.....	20.00	8.00	10.00
Wrist .....	10.00	5.00	5.00	.....	10.00	8.00	5.00
Hip .....	25.00	10.00	15.00	10.00	40.00	15.00	15.00
Knee .....	20.00	5.00	15.00	.....	.....	10.00	.....
Patella .....	10.00	5.00	5.00	.....	.....	5.00	.....
Ankle .....	20.00	5.00	15.00	.....	10.00	8.00	5.00
Clavicle .....	15.00	5.00	10.00	.....	.....	8.00	.....
Fingers—one or more.....	3.50	1.50	2.00	.....	5.00	2.50	2.00
Toes—one or more.....	5.00	2.00	3.00	.....	5.00	2.50	.....
Jaw .....	5.00	3.00	2.00	.....	10.00	5.00	5.00
Ribs—one or more.....	5.00	3.00	2.00	.....	.....	.....	.....
Spine .....	25.00	15.00	10.00	.....	.....	.....	.....
Sternum .....	5.00	3.00	2.00	.....	.....	.....	.....
Coccyx .....	10.00	5.00	5.00	.....	.....	.....	.....
Metacarpal—one or more.....	5.00	3.00	2.00	.....	.....	5.00	.....
Metatarsal—one or more.....	10.00	5.00	5.00	.....	.....	5.00	.....
Carpal—one or more.....	5.00	3.00	2.00	.....	.....	5.00	.....
Tarsal—one or more.....	10.00	5.00	5.00	.....	.....	5.00	.....
Scapula .....	15.00	5.00	10.00	.....	.....	.....	.....
Pelvis .....	10.00	5.00	5.00	.....	.....	.....	.....
<i>Special Operations—</i>							
Trephining of skull.....	50.00	40.00	10.00	50.00	.....	50.00	25.00 to 50.00
Laparotomy for traumatic peritonitis.....	50.00	40.00	10.00	.....	.....	50.00 to 75.00	.....
Fixation or suturing of kidney.....	75.00	50.00	25.00	.....	.....	.....	.....
Laparotomy for rupture or wound of bladder.....	50.00	40.00	10.00	.....	.....	.....	.....
Laparotomy for rupture or wound of liver .....	50.00	40.00	10.00	.....	.....	.....	.....
Laparotomy for rupture or wound of spleen .....	50.00	40.00	10.00	.....	.....	.....	.....
Laparotomy for rupture or wound of stomach .....	50.00	40.00	10.00	.....	.....	.....	.....
Laparotomy for circumscribed aneurysm.....	50.00	40.00	10.00	.....	.....	.....	.....
Trephining bone abscess.....	10.00	5.00	5.00	.....	.....	.....	.....
Caries or necrosis—removal of.....	15.00	10.00	5.00	.....	.....	.....	.....
Tracheotomy .....	40.00	25.00	15.00	.....	.....	.....	.....
Intubation .....	10.00	5.00	5.00	.....	.....	.....	.....
Rupture of abdominal wall.....	25.00	10.00	15.00	.....	.....	.....	.....
Nerve—section or suturing of.....	10.00	5.00	5.00	.....	.....	.....	.....
Injection of antitoxin for tetanus or hydrophobia .....	.....	.....	.....	.....	.....	.....	.....

Each treatment \$5.00, total not to exceed \$25.00.

TABLE 19.—MEDICAL AND SURGICAL SCHEDULE OF RATES (Continued).

SPECIFIC INJURIES.							
Treatment or Injury	New York†			California.	Oregon.	Ohio.	West Virginia.
	A Flat Rate, Including First Aid, Operation, and Full Treatment.	B Operation Only.	C Total Limit for Full Subsequent Treatment.				
<i>Special Operations—</i>							
Anthrax—cauterization or excision...	\$25.00	\$10.00	\$15.00	.....	.....	.....	.....
Ligating important arteries (separate operation) .....	10.00	5.00	5.00	.....	.....	.....	\$5.00 to 10.00
Ligating small arteries (separate operation) .....	5.00	3.00	2.00	.....	.....	.....	.....
Hernia—reduction by taxis and applying truss (subsequent treatment none) .....	5.00	.....	.....	5.00	.....	.....	.....
Herniotomy .....	50.00	35.00	15.00	30.00	50.00	.....	25.00
Enucleation of eyeball.....	40.00	25.00	15.00	30.00	.....	25.00 to 35.00	.....
<i>Sprains—</i>							
Shoulder .....	5.00	2.00	3.00	5.00	*	.....	**
Elbow .....	5.00	2.00	3.00	5.00	*	.....	**
Wrist .....	5.00	2.00	3.00	5.00	*	.....	**
Hip .....	5.00	2.00	3.00	5.00	*	.....	**
Knee .....	5.00	2.00	3.00	5.00	*	.....	**
Ankle .....	5.00	2.00	3.00	5.00	*	.....	**
All other joints.....	3.00	1.00	2.00	2.00	*	.....	**
<i>Special Items—</i>							
Minor operations—repair of small wounds, including suturing and dressing .....	5.00	2.00	3.00	2.50	.....	1.00 to 2.00	.....



Treatment or Injury	SPECIFIC INJURIES.						
	New York†			California.	Oregon.	Ohio.	West Virginia.
	A Flat Rate, Including First Aid, and Full Treatment.	B Operation Only.	C Total Limit for Full Subsequent Treatment.				
Repair of large wounds requiring extensive suturing and dressing.	7.50	3.00	4.50	5.00	.....	2.00 to 5.00	.....
Abscess—incision .....	4.00	2.00	2.00	2.50	.....	.....	.....
Laminectomy (special operation)....	75.00	50.00	25.00	75.00	.....	75.00	.....
Paracentesis, thoracis or pericardii (special operation).....	15.00	10.00	5.00	5.00	.....	.....	.....
Rupture of tendon—large.....	10.00	5.00	5.00	25.00	.....	.....	.....
Rupture of tendon—small.....	5.00	2.50	2.50	.....	.....	.....	.....
General Items—							
Assisting at operation—major.....	10.00	.....	.....	10.00	10.00	.....	5.00
Assisting at operation—minor.....	2.00 to 5.00	.....	.....	5.00	5.00	5.00	.....
Mileage beyond city limits—per mile one-way only.....	.50	.....	.....	.50 day .75 night	.75 day 1.00 night	Extra if possible	.....
Examination in lunacy—including written report and one day's attendance in court or before commission	50.00	.....	.....	.....	.....	.....	.....
Subsequent court or commission attendance, per day.....	25.00	.....	.....	.....	.....	.....	.....
Urinalysis, when specially requested.	2.00	.....	.....	.....	.....	.....	.....
Complete physical examination and report by other than attending physician .....	3.00	.....	.....	.....	.....	.....	.....
Necropsy, complete, with written report	15.00	.....	.....	.....	.....	.....	.....
Necropsy, attending, but not performing .....	10.00	.....	.....	.....	.....	.....	.....
Microscopic and chemical analysis of organs .....	25.00 extra	.....	.....	.....	.....	.....	.....
Testimony in court or before commission as to simple fact of injury..	10.00	.....	.....	10.00	10.00	.....	.....
Testimony at coroner's inquest.....	5.00	.....	.....	.....	.....	.....	.....
Expert testimony, per day.....	15.00 to 25.00	.....	.....	.....	.....	.....	.....
Introducing catheter.....	2.00	.....	.....	2.50	.....	.....	.....
Roentgenogram, including plate....	5.00	.....	.....	.....	5.00 to 10.00	.....	7.50 to 15.00
Subsequent roentgenograms, including plates .....	3.00 each	.....	.....	.....	.....	.....	.....
General anesthetic, administration of.	5.00	.....	.....	5.00	5.00	5.00	5.00
Subsequent Treatment, Office.							
First Aid.							
Ordinary Items—							
Ordinary day visit at house, including antiseptic dressing when necessary.....	\$2.00	\$1.00	.....	\$2.00	\$2.00	.....	.....
Ordinary day visit at hospital, including antiseptic dressing when necessary.....	1.00	1.00	.....	1.50	2.00	.....	.....
Ordinary office treatment, including antiseptic dressing when necessary.....	1.00	1.00	.....	1.00	1.00	\$0.50 to \$1.50	.....
Visit, including antiseptic dressing and necessary operative procedures in ordinary cases of incisions, punctures, lacerations or contusions...	2.00	1.00	\$2.00	2.00	.....	Ordinary .50 to 2.00 Extraordinary 2.00 to 4.00	.....
Night visit, 9 p. m. to 7 a. m.....	3.00	.....	.....	3.50	.....	.....	.....
First attention at office, including operative procedure and dressing of ordinary wounds.....	1.50	1.00	.....	2.00	.....	.....	.....
Removal of ordinary foreign body from conjunctiva, at office.....	1.00	.....	2.00	2.00	.....	1.00	.....
Removal of foreign body from cornea.....	1.50	1.00	3.00	2.00	.....	.....	.....

California fee in fractures includes reduction and first dressing.  
Oregon fee in fractures includes reduction and subsequent treatment.  
Ohio—All fees are only a guide after attention made "Miscellaneous."  
West Virginia—Fracture reducing and first dressing. The fewer the after-dressings the larger the initial fee. The same rule in amputations for after-treatment.  
\*Sprains included under treatment and first dressing of wounds of soft parts, burns, strains, contusions, bruises, arresting hemorrhage, removing foreign body from eye, \$2.00.  
\*\*Treatment and dressing of lacerated wounds of the soft parts, burns, sprains, strains, bruises, arresting hemorrhage, etc., ordinary case, 50 cents to \$2.00; extraordinary case, \$2.00 to \$4.00.  
†July, 1914, to July, 1915.

In considering fee bills in general the opinion is frequently expressed that a fee bill for a special kind of work in any community, such as work under the compensation acts and expressed as a minimum fee bill for such work, soon becomes a maximum fee bill for other members of the community. Patients will demand to be treated for the same schedule of fees, whether these patients are under the compensation act or not, and if there be two fee bills, the low one for special work tends to replace the higher bill in general work. This, of course, can hold only among people with small incomes; but this means the great majority of the people. The flat rate element of any fee bill, as expressed especially in the New York fee bill, works an injustice in many instances. Such a rate is made by the insurance company on the basis of averages for a given injury. This is fair for the insurance company dealing with large num-

bers of cases, but is not fair to the individual surgeon who deals with few cases, as any single case judged by averages may be overpaid or greatly underpaid for the surgical service rendered. Inflexibility, therefore, in a fee bill tends manifestly to unfairness in the treatment of the individual surgeon and is naturally resented by many individuals throughout the state. If rates in the fee bill can vary between certain stated amounts, as in the West Virginia fee bill, it will give greater flexibility and render justice to the individual surgeon, or if, as under the industrial commission of Ohio, it is specifically stated that the fee bill is used as a guide and is not a hard and fast agreement between any individual and the insurance companies.

HOSPITAL SERVICE.

The relation between hospital and the compensation acts is one which opens up many possibilities for disagreement be-

tween the profession, the boards of trustees of hospitals and the workmen's compensation commissions. As is well known, in the majority of municipal hospitals in this country physicians and surgeons are not permitted to charge fees to the charity patients who come under their care. This has heretofore been generally accepted as just and the experience gained has been the remuneration to the physician or surgeon for time spent and trouble taken. The present situation in New York City is anomalous. The corporation counsel of New York City has decided that the authorities in the municipal hospitals may charge for the board and lodging of patients under the compensation act, but surgeons in the hospital shall not be permitted to charge for their services. This unquestionably prevents the situation arising of a patient who is not under compensation feeling aggrieved for attention given to a patient who is under compensation and accusing the surgeons of undue favoritism. There is no question that surgeons in municipal hospitals must treat all patients equally well, and if a surgeon is paid for one patient and not for another, there will continually arise these accusations of favoritism brought by the envious and the dissatisfied, which, however unjust, will cause unceasing trouble.

#### NEW SOCIAL CONDITIONS.

The judicial council of the A. M. A. further realizes that in the near future the majority of medical men in this country must face a new social condition in connection with the laws of workmen's compensation in accident and probably in sickness. Laws for workmen's compensations exist in more than half of the states of the Union today and already pensions for widows and orphans have followed in a number of states. Illinois passed the first mothers' pension in 1911, California and Colorado in 1912 and, similar laws have followed in Washington, Utah, South Dakota, Idaho, Minnesota, Iowa, Nebraska, Ohio, New Jersey, Pennsylvania, Massachusetts, Michigan, Wisconsin, Oregon and New York. Milwaukee and St. Louis have established similar systems independently of state action.

There are various industrial pensions for invalidity and old age, as in certain railroads or in certain large industrial establishments. In several large cities in the Union there is a rapid expansion and extension of activities of the health board which constitutes state medicine. All these, at present, form an unrelated mass, all tending to give social aid in time of varying needs to different members of the community. In several countries abroad the same various social elements have been combined into some form of workable adaptability by which various accident and sickness insurance, invalidity and old age pensions have been brought together to form social forces which have tended to reduce the destitution of large masses of human beings.

#### SOCIAL INSURANCE.

The committee on social insurance of the American Medical Association presented to the house of delegates a statistical study of the medical profession of the United States in its various relations, both in the ratio of physicians to population, their geographic distribution and the various other statistical facts that are of importance and interest to the profession. There are at present no reliable figures concerning the income of physicians and other economic facts of interest. The committee is endeavoring to obtain reliable information concerning this matter.

In the near future it is the intention of the committee to undertake the following duties:

First, to educate the American medical profession in the general principles of social insurance, particularly health insurance, the economic and social significance of the movement to obtain such insurance throughout the United States and the absolutely essential part which the medical profession must play in a successful adaptation of this new legislation to American conditions.

Second, the bureau will consider it as part of its work to answer all questions which any physician may desire to write to it, asking for information, facts or figures bearing on social insurance in any of its phases, and to be in reality

a bureau of information for the medical profession in regard to the details of organization, of medical aid in various forms of social insurance, both in European countries and the United States.

Third, the committee considers it its duty to appear when advisable before the legislative bodies in this country with a view to bring about friendly understanding between all parties concerned and to protect the legitimate economic interests of the profession in the laws coming up for discussion concerning social insurance.

The work of this committee should be directed in such channels as to avoid the conflict which has arisen in England at the beginning of a similar movement and which has resulted in a very large amount of bitterness between the profession and the public that might easily have been prevented by appropriate timely action.

It is further the intention of the committee to undertake the following lines of work without assuming the obligation of completing them within any specified time:

First, to collect a bibliography on social insurance with special reference to medical questions involved.

Second, to undertake, by correspondence, to get in touch with the various sickness insurance organizations in Europe, so as to obtain first-hand information as to their experience.

Third, to undertake a statistical study of hospital and dispensary facilities in this country in view of the possibility of these institutions, assuming a broader function under health insurance.

Fourth, to study the conditions of lodge practice, both from the point of view of the physician and the patient.

Fifth, to gather all available information regarding the status, earnings, etc., of the medical profession in regard to which problem the wildest statements are current without any basis of fact underlying them.

#### SOCIAL INSURANCE.

During the past year the number of states and territories having workmen's compensation laws has increased from twenty-three to thirty-three. In 1915 laws were enacted in Alaska, Colorado, Hawaii, Indiana, Maine, Montana, Oklahoma, Pennsylvania, Vermont and Wyoming. Only three of the new acts are compulsory for the industrial workers; that is, those of Hawaii, Oklahoma and Wyoming. The law of Wyoming is interesting in its method of administration, being a straight insurance measure, all indemnities being paid out of a state fund made up by assessments imposed on employers and an additional 25 per cent, not, however, to exceed \$40,000, contributed by the state. In Pennsylvania, Colorado and Montana there are state funds created. Indiana, Oklahoma and Maine permit voluntary benefit schemes as a substitute for the statutory provisions. Alaska confines its compensation law to the mining industry, and Alaska and Wyoming do not provide medical aid, but the maximum compensation in Alaska is fixed at \$6,000, which is the largest compensation payable under any of the existing compensation laws. Medical aid is provided for in all the other states and territories.

The waiting period in Colorado is lengthened to three weeks and in the case of permanent total disability the compensation continues until death only in Colorado and Montana. Colorado, also, is the only state which allows compensation until death in the case of partial disability. The cash benefits are 55 per cent in Indiana, 60 per cent in Hawaii and 50 per cent of the wages in all the other new laws. Bills have been introduced in three legislatures in 1916, the passage of which would bring compulsory health insurance into existence in these states. Compulsory health insurance brings such demands on the medical profession that these bills become immediately of the greatest interest to the profession.

#### COMPULSORY INSURANCE.

Compulsory sickness insurance in Great Britain in the last four years has brought out the fact that previous to the universal insurance huge masses of the poor never had had any medical care. There had been a vicious circle of poverty,



disease and unemployment, which had constantly reacted one way or the other, each factor intensifying the other two and producing as a result a huge mass of the poorest members of the working class unprotected against sickness, uncared for when sick, living an existence in civilized communities little better than savages. Few stopped to realize the economic necessity of health to the wage earner. With the poor all that separates their poverty from absolute destitution, which means that unless he soon recovers his health he must turn to public charity to help him in the care of his family.

#### COMPARISON OF METHODS ABROAD.

**GERMANY:** Just prior to the passage of the sickness insurance law in Prussia statistics show that 839,602 members belonged to registered friendly societies, 220,000 to minor societies and about 200,000 to non-registered friendly societies. Only about half of those for whom the insurance law was intended had availed themselves of the protection of voluntary sickness insurance.

**GREAT BRITAIN:** In Great Britain, previous to 1911, insurance was voluntary and was carried on by so-called friendly societies, the membership of which was made up of the able-bodied, active workmen of England.

The most complete and most recent scheme of social insurance is the national insurance act of Great Britain of 1911. Under its provisions health insurance is compulsory on all employed persons aged from 16 to 70, except those in the naval or military services of the crown, those in other employment under the crown or under local or other public authorities for whom adequate provision already exists, employes of railway companies and the like provided for by suitable benefits, teachers provided for under other acts, etc. Those affected by the exceptions are comparatively few and may, in the discretion of the insurance commissioners, be transferred to the compulsory insurance scheme.

TABLE 2.—AVERAGE NUMBER OF CASES OF SICKNESS FOR BOTH SEXES PER HUNDRED INSURED IN SICKNESS INSURANCE SOCIETIES, 1888-1907.\*

Sex.	Communal.	Local.	Factory.	Building.	Guid.	Mutual Aid.	Independent State.	All Societies.
Men .....	27.3	37.5	44.7	58.3	34.4	37.3	31.2	38.0
Women .....	22.2	33.6	37.4	47.3	26.6	33.7	28.8	32.1

The standard rate of contribution is 18 cents for men and 16 cents for women. This amount is made up of contributions from employer, employee and public funds, the amount paid by each depending on the insured person's rate of wages. If this reaches or exceeds 61 cents per working day the employer pays 6 cents, male employees pay 8 and female employees 6 cents per week, the remaining 4 cents being contributed from the public funds. If the rate of wages falls between 49 and 61 cents a day, the employer pays for male employees 8 and for female employees 6 cents a week, and the employee, regardless of sex, pays 6 cents, the contribution from public funds remaining the same. When the rate of wages is between 37 and 49 cents a day the employer pays 10 cents per week for men and 8 cents for women, the employee pays 2 cents and 6 cents is contributed from the public funds. When the rate of wages does not exceed 37 cents a day, the employer pays for men 12 and for women 10 cents a week, the employees pay nothing, and 6 cents a week is provided from the public funds. These provisions relate only to employees of the age of 21 or upward.

TABLE 3.—PROPORTION OF CASES OF SICKNESS LASTING OVER THIRTEEN WEEKS, BY SEX\*

Duration of Sickness	Per 100 Cases of Sickness	
	Males	Females
From fourteen to twenty-five weeks.....	3.5	5.7
Twenty-six weeks and over.....	2.3	2.8

Provision is made for the determination of claims and the arbitration of disputes in both branches of the act. It was estimated that there were 14,000,000 insurable persons in the compulsory health insurance class and approximately an additional 2,000,000 who would become voluntary members. According to the Fabian Society report, only about 21,200 did actually in the first two years become voluntary members.

#### ADMINISTRATION AND EXTENT OF BENEFITS.

Considering the benefits given in the various countries under the sickness funds, Austria insists that the benefits provided by a sick fund must not be less than the following: From the beginning of a sickness free medical treatment, as well as free medicines and therapeutic appliances, as eye glasses, crutches, etc. Medical treatment includes lying-in treatment. In case the sickness lasts more than three days and the sick person is unable to work, he shall receive a cash benefit equal in amount to 60 per cent of the current wages for ordinary day labor in the district, this cash benefit to be paid for a period of twenty weeks. In cases of normal childbirth, sick benefit is to be paid for at least four weeks after delivery. In case of death, the heirs shall be paid a funeral benefit not less than twenty times the rate of wages for ordinary day labor, as above. The benefit is paid if the death occurs after the twenty weeks, provided the sick person has retained his membership in the sick fund by continuing payment of dues; and if the disability is caused by an accident covered by the accident insurance laws, the funeral benefits may be claimed both from the sick fund and from the accident insurance institution. This rate of wages is revised from time to time, and under both sexes is rated as for adults and for young persons, that is, 16 years of age or younger: Apprentices are rated as young persons.

The minimum benefits provided by the sickness insurance system consists of medical attendance, medicines and therapeutic supplies from the date the sickness or disability begins, regardless of whether it causes inability to continue working. If the sickness or disability prevents the insured workman from continuing work, he must be granted a pecuniary benefit which must not be less than half the rate of wages paid in the locality for ordinary unskilled day labor, this benefit to begin on the fourth day of disability and to be paid for disability of not less than twenty-six weeks and not more than fifty-two. A pecuniary benefit of the same amount is paid for six weeks after the date of confinement to a female insured person in case of childbirth; and funeral benefit of twenty times the rate of wages in computing the benefit, but not less than \$11.90.

#### LEIPZIG REGULATIONS.

**Change of Doctor.**—Patients may change their doctor in the course of an illness only with the consent of the society. The society shall not exercise any influence in the choice of doctor, and, if a change of doctor is approved, shall at once inform the doctor changed, with a statement of the reasons for the approval, according to the provisions of these regulations.

**The following rules shall apply to the granting or refusal of approval of a change of doctor:**

1. Approval shall be given to the change of doctor by a member or dependent:

(a) If the society doctor refuses to continue the treatment of a patient and does not send him to another doctor, or if the patient does not wish to go to a proposed doctor.

(b) If the patient cannot be required to retain the same doctor because of the change of address of the doctor or of the patient, or of a change in the consultation hours.

(c) If the doctor who has given the first attendance in the case of an illness resides so far away, or his consulta-

\*Frankel and Dawson: Workingmen's Insurance in Europe, Table 71.

\*Twenty-Fourth Annual Report Commissioner of Labor, vol. i.

tion hours are so inconvenient that there would be undue difficulties to the patient in being attended by him.

(d) If the contemplated change is from a general practitioner to a specialist, or from a specialist to a general practitioner.

(e) If change of treatment is contemplated, more particularly when the doctor advises a course of treatment or an operation which the patient rejects.

(f) If the deputy of the treating doctor does not possess the confidence of the patient.

(g) If the treatment has continued for a long time without apparent result (to give ease of mind to the patient).

2. In addition, change of doctor shall be approved in the case of members who continue at work and of dependents:

(a) In case of differences between the doctor and the patient (in order to prevent further difficulties).

(b) In all other cases in which the foregoing conditions seem to exist. (In doubtful cases, the approval shall only be given after inquiry has been made of the treating doctor, and, in suitable circumstances, also only after a certificate has been obtained from a confidential medical adviser.)

3. Approval to change of doctor shall be refused:

(a) If the patient is not satisfied with the prescriptions of the doctor, or if he desires particular drugs or other means of cure.

(b) If the patient has made improper proposals to the doctor.

(c) In the absence of any adequate reasons.

4. In addition, approval to change of doctor shall be refused in the case of members who cannot follow their employment:

(a) If there is suspicion of malingering.

(b) While examination by a confidential medical adviser is pending.

(c) In case of dispute with the doctor as regards inability to follow employment. (In these cases the patient shall be speedily examined by a confidential medical adviser. The result of the examination shall be immediately communicated to the treating doctor. If the result agrees with the diagnosis of the latter, the refusal to a change of doctor shall hold good. Otherwise approval is to be given to the change.)

The following cases are not considered to constitute a change of doctor and do not require approval:

(a) If at the commencement of an illness, notwithstanding repeated requests, the doctor does not attend and the patient goes on to another doctor.

(b) If a patient, in consequence of a sudden change in his condition and inability to obtain readily the services of the treating doctor, obtains the services, for the time, of another doctor.

(c) If a doctor discharges a patient from his care as cured and the latter still considers himself ill. (If a patient in such a case is certified as unable to follow his employment by the new doctor, he shall forthwith after receipt of his sickness book be examined by a confidential medical adviser.)

**The Sending of Patients to Hospital.**—The doctor shall send sick members to hospitals, etc., (even against the will of the member in the circumstances set out in Section 12, Part 3, of the rules of the society) in cases of:

1. Illnesses which require long surgical attention or serious operations.

2. Illnesses of all kinds when, because of the conditions of the dwelling place and the like, treatment in a hospital is desirable.

3. Infectious venereal diseases, especially if the patient is unable to follow his employment.

4. Enteric fever, cholera, smallpox, scarlet fever, diphtheria, epidemic cerebrospinal fever.

5. Suspicion of malingering.

6. Request of the managing committee of the society.

#### REMUNERATION OF PHYSICIANS.

The various methods of remuneration are as follows: Payment by attendance; under this system the fees charged are as a rule the minima of the official scale, though in some cases a

reduction is made on these minima in case of often recurring services; or, again, an agreed reduction varying from 10 to 20 per cent may be allowed on all official minimum fees alike. Here the position of insured persons is exactly like that of private patients. The only large federation of sickness societies known to pay its medical staff unconditionally on this principle, though there may be others, is that of Bremen with a membership of about 30,000. On the other hand, the unattached factory and trade guild funds of the town very commonly pay the physicians on this principle. In the rural districts the plan of payment by attendance is common and often found to be a condition of efficient medical service or any service at all. In Stuttgart the factory and guild funds, as a rule, pay for all attendances at the minimum rates less a deduction of 20 per cent and this is the case with many of these funds in Munich. In Leipzig the reduction is usually 5 to 10 per cent.

#### PAYMENT PER CASE OF SICKNESS ATTENDED.

Payment by fixed salaries is an unusual method of payment, although adopted by some sickness funds and by some of the miners' funds. The Dresden Federation of Sickness Funds is the best known example of this, which had an average membership in 1911 of 127,938, and which gives medical attendance, without medicine or appliances, and partial hospital treatment to dependents. The area served by the Dresden fund is divided into 160 districts of unequal extent, and a physician is assigned to each district. The insured persons in a given district are expected to consult the physician in that district. In case of dissatisfaction, their wishes are considered as far as possible. All appointed physicians, as a matter of fact, engage in private practice. Salaries range from \$1,250 a year to \$150. The only extra payments are fees for night visits in special cases of 75 cents and mileage in the case of rural physicians, and also all dressings and drugs needed by the physicians as distinguished from those prescribed.

In the beginning of 1912 there were 109 town physicians engaged by this federation, fifty-four country doctors, sixty-five specialists, with two whole-time confidential or certifying physicians. The salary of town physicians in 1911 averaged \$939, the country physicians, \$377.75, and the specialists \$754.25. The total cost of medical attendance, including attendance on dependents, averaged \$1.592 per member, the cost of medicine and appliances as supplied to members only \$1.106, and the cost of hospital and institutional treatment, only partially given to dependents, \$1.322. Some towns vary the Dresden system by guaranteeing the physicians appointed a minimum salary with an addition depending on the number of their services.

The plan of employing whole time physicians at fixed salaries has been adopted at different times and places, but only experimentally. At Remscheid, in Prussia, it was tried from 1898 to October, 1905.

#### HOSPITAL AND INSTITUTIONAL TREATMENT.

Although hospital treatment as an alternative to home treatment now ranks as a minimum benefit, the law reserves to sickness funds an unconditional right to decide as to whether the alternative shall be offered or not. Hospital treatment, however, is very widely given, and the expenditure under this head forms an important part under the cost of medicine benefits. Hospital maintenance is paid for by fees which usually vary from 50 to 75 cents per day both in public and in private institutions. Some times sickness fund patients are treated in public hospitals at bare cost or even under cost. There is no extra charge for operations in public hospitals, but in private clinics these are generally paid for extra.

#### BENEFITS IN ENGLAND.

Under the present English law the benefits conferred on insured persons are of two kinds; the minimum benefits to which, with certain qualifications, every insured person is entitled, and the additional benefits to which an insured person may be entitled if he is a member of an approved society which



shows a surplus on valuation. In each case a contribution of two-ninths in the case of a man and one-fourth in the case of a woman will be made by Parliament toward the cost of benefits. The minimum benefits are, first, medical benefits, that is, the right throughout life to free medical attendance by any physician who applies to the insurance committee for the county or county borough in which the insured person resides for a place on their list, and who consents to accept him as a patient. If the physician of his choice refuses him he will be assigned by the committee to one or other of the physicians on the list. Medical benefit includes free medicines and drugs, and such appliances as the insurance commissioners may allow. It does not include any right to attendance in respect of a confinement. As one of the additional benefits, the right to medical treatment may be extended to the dependents of an insured person. Second, sanatorium benefit, which is the right throughout life to treatment in a sanatorium or otherwise for an insured person suffering from pulmonary tuberculosis or any other disease which the local government board may appoint. The insurance committee which administers this benefit may also pay or advance the traveling expenses of an insured person to and from the sanatorium. This benefit may be extended to his dependents if the sums available for it allow, independently of any surplus in the member's own society. Third, sickness benefit: a payment of \$2.50 a week for a man and \$1.87 for a woman beginning on the fourth day of illness and continuing for twenty-six weeks; notice of the illness must be given before the claim can be allowed. An insured person will not be entitled to this benefit until twenty-six weekly contributions have been paid in respect of him, and it is this benefit which, in the case of a member of an approved society, will be reduced if he is in arrear. Fourth, disablement benefit, which is a continuation of sickness benefit at the rate of \$1.25 a week for a man or woman, lasting as long as the illness. The right to this benefit does not accrue until 104 weekly contributions have been paid in respect of the insured person, but both sickness and disablement benefit will become payable as soon as the necessary period has elapsed and the necessary contributions have been paid, although the illness began before that time. The right to both of these benefits ceases at the age of 70. The test for both of them is that the claimant must be rendered incapable of work, that is, of any work whatever, by some specific disease or by bodily or mental disablement; but any disease or disablement in respect of which he is entitled to compensation or damages from his employer or any other person under the workmen's compensation act of 1906, or the employer's liability act of 1880, or at common law is excluded. In that case, however, his society or insurance committee may assist him to enforce his rights. Any approved society may substitute for sickness or disablement benefit or part of them any of the additional benefits, and may give its members an option in the matter. Fifth, maternity benefit, which is a payment of \$7.50 in the case of confinement of the wife, or where the child is a posthumous child, the widow of an insured person, or of any other woman who is herself an insured person. Where a married woman, or in the case of a posthumous child, a widow, is herself an insured person, she will be entitled to sickness or disablement benefit as the case may be during her confinement, in addition to her maternity benefit; but any other woman, that is, any unmarried woman, will not be entitled to those benefits for four weeks after her confinement unless suffering from some illness not connected with it. The right to maternity benefit will not accrue until twenty-six, or in the case of a voluntary contributor fifty-two weekly contributions have been paid. The benefit will be administered in cash or otherwise at the discretion of the society or insurance committee concerned, but in every case the mother will have the right to choose a physician or midwife to attend her whose fee must be paid out of the \$7.50 benefit.

Finally, there is a prospect of extended benefits at the close of a period of eighteen years. To the worker who joins as a young man and who does not expect in the course of nature to draw heavy sick pay before reaching the age of 40 or 45, this prospect of extended benefits is of real value.

The fact is that for a period of eighteen years a part of the contributions goes to a fund for equalizing the benefits of old and young; at the end of that time, when the process of equalization is complete and the fund provided, the whole of the contribution of 14 cents a week and the whole of the state grant of 4 cents will be available for the purpose of paying benefits unless some further small accumulation is made and the benefit so extended will be paid to insured persons when the period is complete. It is important to remember that all these benefits are guaranteed, within limits, to members of approved societies only. The deposit contributor will get only benefits to the extent of his balance at the post-office, plus the state agent, and is, therefore, not really insured. The position of deposit contributors must be reviewed by Parliament before January 1, 1915. Whether, owing to the war, this was done or not, it is impossible to say.

There are, however, six classes of insured persons, in addition to those already mentioned, who will not receive all the benefits in full. First are persons under the age of 21, not married, and having no members of their families dependent on them; second, employed contributors who become insured within one year after the commencement of the act and are then over the age of 50; third, employed contributors who enter when above the age of 17, after one year from the commencement of the act; fourth, employed contributors whose employers with or without their consent exercise the option of undertaking the liability to pay full wages during about six weeks of sickness. During the six weeks, when full remuneration is received from the employer, no sick or disablement pay will be due to the insured person, but it will begin when the liability of the employer ceases. Fifth, those of men over 65 and under 70 at the commencement of the act; sixth, those of aliens.

All these six classes have certain qualifications and certain conditions under which they are partially insured, the details of which are unessential for the purpose here and must be obtained from the act itself.

TABLE 5.—REMUNERATION IN LODGE PRACTICE BEFORE THE NATIONAL INSURANCE ACT, 1911.

Annual Caption Fee	Members	Average Caption per Member Fee	Average Attendances per Member per Year	Average Fee per Attendance
\$0.50 to \$0.75.....	9,630	\$0.59	3.59	\$0.159
.75 to 1.00.....	9,311	.81	3.67	.211
1.00 to 1.25.....	17,741	1.03	4.46	.2196
1.25 and upwards....	4,211	1.35	5.43	.2672

#### REGULATIONS FOR MEDICAL ATTENDANCE.

The English act guarantees adequate medical attendance and treatment to the patient, but the panel physician contracts to give only such treatment as is of a kind which can consistently with the best interests of the patient be undertaken by a general practitioner of ordinary competence and skill, and, further, when the condition of the patient is such as to require services beyond the competence of an ordinary practitioner, the practitioner shall advise the patient what steps to take so as to obtain the treatment his condition may require. These medical regulations are made by the English Insurance Commission so they are uniform throughout England. On this basis, therefore, roentgen-ray diagnoses, pathologic and bacteriologic examinations, major operations or other operations requiring an assistant in addition to the practitioner and the anesthetist are not not included under these ordinary services.

In 1912, disputes between two practitioners on the panel were referred to the local medical committee to take such action as they might think necessary; questions arising between physician and patient which cannot be adjusted through the principles of free choice and the physician's right of refusal of a patient may be referred by either party to the medical service subcommittee, which consists of three physicians chosen by the local medical committee, three insured persons and a chairman chosen from those members of the insurance committee who are appointed by the county or county borough council or from those appointed by the commissioners. If

the insurance committee finds the insured person at fault, it may transfer him to another practitioner or fine him or, in the case of repeated offense, suspend him from benefit. If the practitioner is found at fault, the patient may be transferred to another practitioner, but the committee cannot remove the practitioner from the panel or inflict any penalty beyond the transfer of the patient. The removal of a practitioner can be made only after an injury conducted by a committee of inquiry especially appointed by the insurance commissioners for the purpose. This committee of inquiry must consist of two members of the medical profession and one barrister or solicitor in actual practice appointed by the insurance commissioners. The commissioners can proceed only on the result of such an inquiry.

After a year's working of the act it was found that this local medical committee, which was composed of all the practitioners in any county or county borough, was insufficient to give justice to physicians working on the panel, and a special panel committee was passed in the amendment to the national insurance act in 1913 and all questions regarding the attendance and treatment of the insured persons must go through this local panel committee.

#### METHODS OF REMUNERATION.

Remuneration to the practitioners is made through the insurance committees. The method which is adopted rests with the insurance committee, subject to the approval of the insurance commissioners; but in practice it was decided in accordance with the preference of the practitioners on the panels, the amount received by each doctor depending on the method adopted.

#### THE MATERNITY BENEFIT.

The most serious breakdown in the English law has been in the administration of the maternity benefit. It was early found that it was a necessity that the money payment should be made to the woman herself and not to her husband except by her order. In calculating on the premiums and not including the actuarial calculation for the sickness benefits of the English insurance act, the statistics of the Manchester Unity Society were taken. This was a society composed entirely of men, and the actuaries loaded the benefits of these selected lives, allowing for various contingencies. The actuarial errors were that no account was taken of the varying difference in sickness of different trades and the big variation of sickness occurring between men and women and married and unmarried women. Calculating from the lives of selected men, the actuaries had forgotten all about pregnancy and sickness pertaining thereto.

#### HEALTH INSURANCE IN THE UNITED STATES.

The general situation in the United States today is similar to that in England and Germany before the passage of their comprehensive health insurance laws. No state, municipal or other government in any way provides for or aids health insurance, according to the latest bulletin on health insurance of the Treasury Department. Medical benefit, however, is generally granted by both state and municipal authorities in the public hospitals which are supported so generally throughout the Union, for hospitals are nothing more or less than that amount of medical benefit which the community is willing to give for its own or neighboring sick poor. And the same can be said of the free dispensaries. Both state and municipalities go further and provide sanitation and preventive medicine through the various departments of health. As a rule, this extends only to the communicable diseases under the sanction of the police power of the state. In some instances, as in the New York City health department, therapeutic procedures are also added to the benefits given often in the homes, as, for instance, free diphtheria antitoxin and free meningitis serum given by trained inspectors on the advice of any physician to the poor at any time. The New York health department goes farther and manufactures these substances, its laboratories adding also in no small degree to the scientific advancement of medicine in subjects relating to communicable diseases. New York City also supervises the health of the children in the public schools both by physicians

and nurses. Its services are mostly toward the prevention of disease, but in the special group of communicable diseases an enormous mass of work is done in their care and treatment. This care has developed from the necessity of absolute control if real prevention and limitation are to be obtained. Public care of the insane is in reality the permanent care of mental invalidity, and the public epileptic colonies are founded on a similar basis.

Other evidences of health insurance are shown in the benefits given by the trade unions, both national and local, by employers' organizations for benefit of employees, such as the railroad funds and the establishment funds, mutual societies—that is, the fraternal orders, local lodges, general benefit societies and special sick benefit funds—and commercial companies operating for profit or on a mutual principle, that is, industrial insurance companies and casualty companies doing industrial insurance. The trade unions probably take in about 10 per cent of the total number of the wage earners. They are the only organizations which so far have successfully dealt with unemployment insurance. They are especially fitted for the carrying out of sickness insurance through their local lodges because members of the local lodge have a mutual supervision and restraint on each other. All are practically subject to the same environment, and all possess approximately equal chances for health or sickness.

#### BENEFITS BY TRADE UNIONS.

In considering the amount of temporary disability benefits, the recent passage of the workmen's compensation laws have modified greatly statistics obtainable on this point. It is interesting, however, to note that of the 530 funds included in the report, 346 paid benefits on account of temporary disability. Four of those paid for disability resulting from sickness only, thirty-eight for accident only, and 304 for disability resulting from either sickness or accident. The amount paid usually ranged from \$2 to \$5 a week. The time for which these benefits were paid varied greatly in the funds, some funds having first, second and third periods for which they paid the disability. The majority of the funds limited the periods to a stated number of weeks in each year or days in each month, while others limited them to disability. In twenty-three funds the period for which payments are continued is unlimited. Sixty-one of the 346 paying temporary disability limit the payments to thirteen weeks in each year; fifty-three limit them to a period not exceeding ten weeks in each year.

In 157 of the 346 funds, members do not become beneficiary until six months from date of admission; in seventy-one, however, they are entitled to benefits at once. In sixty a three months' membership is required; twenty-four funds require one year membership.

To prevent malingering and valetudinarianism or fraud of any kind, some sort of supervision is exercised over members who claim benefits on account of temporary disability. Of the 346 funds investigated, 279 require physicians' certificates; in twenty-seven, physicians' certificates may be required if deemed necessary; eight require visits by some officer of the society. Many of the funds have more than one form of supervision, that is, more than 200 of the 257 funds which require physicians' certificates also require visits by sick committees.

#### COMMERCIAL INSURANCE COMPANIES.

There remain to be considered the commercial insurance companies selling so-called industrial life or industrial health insurance. Industrial life insurance is practically funeral insurance or death benefits to the poor. This amounts to enormous sums in the United States. In 1881 the average value of policy was \$91; in 1911 this had risen to \$139.

The proportion of the population carrying industrial insurance in the United States is nearly 27 per cent. Thirty-two companies in 1911 were doing this business. There was about \$785,800.00 worth of insurance written during the year. There were about 24,700,000 policies in force; the amount of insurance in force was about \$3,423,000,000; the premiums re-



ceived amounted to about \$183,500,000, and the losses paid amounted to about \$50,231,000.

### REPORT OF THE COMMISSION ON INDUSTRIAL RELATIONS.

Each of the thirty-odd million wage earners in the United States loses an average of nine days a year through sickness. At an average of \$2 per day, the wage loss from this source is over \$500,000,000. At the average cost of medical attendance (\$6 per head per year), there is added to this at the very least \$180,000,000.

"Accidents cause one-seventh as much destitution as does sickness and one fifteenth as much as does unemployment. A great deal of unemployment is directly due to sickness, and sickness in turn follows unemployment. Sickness among wage earners is primarily the direct result of poverty which manifests itself in insufficient diet, bad housing, inadequate clothing, and generally unfavorable surroundings in the home. The surroundings at the place of work and the personal habits of the worker are important but secondary factors."

#### PROPOSED HEALTH INSURANCE ACT

For the past two or three years, a committee of the American Association for Labor Legislation has been preparing a tentative plan embodying certain health insurance standards that could be modified to meet the situation in the various states of the Union. The following health insurance standards have been adopted, and the following tentative draft of a health insurance act has been agreed upon as a standard act which could be modified as the exigencies of the various states required. It is noticeable that in this draft of a bill the medical and surgical requirements are not fully formulated. This has been intentional because it was deemed necessary that the physicians of any state should be required to consult with the authorities in formulating the regulations under which they are to work.

Following are the health insurance standards and the draft of a health insurance act:

#### HEALTH INSURANCE STANDARDS.

1. To be effective, health insurance should be compulsory, on the basis of joint contributions of employer, employee and the state.

2. The compulsory insurance should include all wage workers earning less than a given annual sum, where employed with sufficient regularity to make it practicable to compute and collect assessments. Casual and home workers should, as far as practicable, be included within the plan and scope of a compulsory system.

3. There should be a voluntary supplementary system for groups of persons (wage workers or others) who for practical reasons are kept out of the compulsory system.

4. Health insurance should provide for a specified period only, provisionally set at twenty-six weeks (one-half year), but a system of invalidity insurance should be combined with health insurance, so that all disability due to disease will be taken care of in one law, although the funds should be separate.

5. Health insurance on the compulsory plan should be carried by mutual local funds, jointly managed by employers and employees under public supervision. In large cities such locals may be organized by trades, with a federated bureau for the medical relief. Establishment funds and existing mutual sick funds may be permitted to carry the insurance where their existence does not injure the local funds, but they must be under strict government supervision.

6. Invalidity insurance should be carried by funds covering a larger geographical area, comprising the districts of a number of local health insurance funds. The administration of the invalidity fund should be intimately associated with that of the local health funds and on a representative basis.

7. Both health and invalidity insurance should include medical service, supplies, necessary nursing and hospital care. Such provision should be thoroughly adequate, but its organization may be left to the local societies under strict governmental control.

8. Cash benefits should be provided by both invalidity and health insurance for the insured or his dependents during such disability.

9. It is highly desirable that prevention be emphasized, so that the introduction of a compulsory health and invalidity insurance system shall lead to a campaign of health conservation similar to the safety movement resulting from workmen's compensation.

#### HEALTH INSURANCE TENTATIVE DRAFT OF AN ACT.

SECTION 1. TITLE.—This chapter shall be known as the Health Insurance Act.

SECTION 2. DEFINITIONS.—When used in this act:

"Commission" means the Social Insurance Commission.

"Fund" means a local or trade fund, as the case may be.

"Society" means an approved society.

"Carrier" means the society or fund which carries the insurance.

"Insurance" means health insurance under this act.

"Disability" means inability to pursue the usual gainful occupation.

SECTION 3. COMPULSORY INSURANCE.—Every person employed in the state at manual labor under any form of wage contract, unless exempted under Section 4 of this act, and every other employee whose remuneration does not exceed \$100 a month, shall be insured in a fund or society, except employees of the United States, and except employees of the state or of municipalities for whom provision in time of sickness is already made through legally authorized means which in the opinion of the Commission are satisfactory.

SECTION 4. HOME WORKERS AND CASUAL EMPLOYEES.—Special regulations shall be made by the Social Insurance Commission for the insurance of home workers and casual employees, or for their exemption from compulsory insurance.

SECTION 5. VOLUNTARY INSURANCE.—Self-employed persons whose earnings do not exceed \$100 a month on an average; persons formerly compulsorily insured who, within one year from the date on which they cease to be insured, apply for voluntary insurance; members of the family of the employer who work in his establishment without wages may insure themselves voluntarily in the local or trade funds of the locality in which they live and of the trade at which they are employed, subject to conditions of this act.

SECTION 6. CASES IN WHICH PAID.—Insured members shall receive benefits in case of any sickness or accident or for death, not covered by workmen's compensation.

SECTION 7. MINIMUM BENEFITS.—Every carrier must provide for its insured members as minimum benefits: Medical, surgical and nursing attendance; medicines and surgical supplies; cash benefits; maternity benefits; funeral benefits; medical and surgical attendance and medicines for dependent members of their families.

SECTION 8. BEGINNING OF RIGHT.—Insurance, with the exception of maternity benefits, begins with the day of membership. The maternity benefits shall be payable to any woman insured against sickness for at least six months during the year preceding the confinement, or to the wife or widow of any man so insured.

SECTION 9. MEDICAL, SURGICAL AND NURSING ATTENDANCE.—All necessary medical, surgical and nursing attendance and treatment shall be furnished by the carrier from the first day of sickness during the continuance of sickness, but not to exceed twenty-six weeks of disability in any consecutive twelve months. In case the carrier is unable to furnish the benefit provided for in this section, it must pay the cost of such service actually rendered by competent persons at a rate approved by the Commission.

SECTION 10. MEDICAL SERVICE.—The carriers, subject to the approval of the Commission, shall make arrangements for medical, surgical, and nursing aid by legally qualified physicians and surgeons, and by nurses or through institutions or associations of physicians, surgeons, and nurses. Provision for medical aid shall be made by the carriers by means of either:

1. A panel of physicians to which all legally qualified physicians shall have the right to belong, and from among whom the patients shall have free choice of physicians, subject to the physician's right to refuse patients on grounds specified in regulations made under the act; provided, however, that no physicians on the panel shall have on his list of insured patients more than 500 insured families or more than 1,000 insured individuals.

2. Salaried physicians in the employ of the carriers, among which physicians the insured persons shall have reasonable free choice.

3. District medical officers, engaged for the treatment of insured persons in prescribed areas.

4. Combination of above methods.

SECTION 11. MEDICAL OFFICERS.—Each carrier shall employ medical officers to examine patients who claim cash benefit, to provide a certificate of disability, and to supervise the character of the medical service in the interests of insured patients, physicians and carriers.

SECTION 12. MEDICAL AND SURGICAL SUPPLIES.—Insured persons shall be supplied with all necessary medicines, surgical supplies, dressings, eyeglasses, trusses, crutches and similar appliances prescribed by the physician, not to exceed \$50 in cost in any one year.

SECTION 13. HOSPITAL TREATMENT FOR ONE PERSON.—Hospital or sanatorium treatment and maintenance shall be furnished, upon the approval of the medical officer of the carrier, instead of all other benefits (except as provided in Section 16), with the consent of the insured member, or that of his family when it is not practicable to obtain his consent. The carrier may demand that such treatment and maintenance be accepted when required by the contagious nature of the disease, or when in the opinion of its medical officer such hospital treatment is imperative for the proper treatment of the disease or for the proper control of the patient. Cash benefit may be discontinued during refusal to submit to hospital treatment. Hospital treatment shall be furnished for the same period as cash benefit. This benefit may be provided in those hospitals with which the funds and societies have made satisfactory financial arrangements which have met the approval of the



Social Insurance Commissioners, or in hospitals erected and maintained by the funds and societies with the approval of the Commission.

**SECTION 14. ARBITRATION COMMITTEE.**—All disputes between the insured and physicians, or between funds and physicians concerning medical benefits, shall be referred to special committees composed of representatives of the interests concerned, with an impartial chairman appointed by the Commission, with an appeal to the Commission.

**SECTION 15. CASH BENEFIT.**—A cash benefit shall be paid beginning with the fourth day of disability on account of illness; it shall equal two-thirds (66⅔ per cent) of the weekly wages of the insured members. It shall be paid only during continuance of disability, and shall not be paid to the same person for a period of over twenty-six weeks in any consecutive twelve months.

**SECTION 16. CASH BENEFITS TO DEPENDENTS.**—A cash benefit equal to one-third of the wages of an insured member receiving hospital treatment shall be paid to his family or other dependents while he is in the hospital.

**SECTION 17. PERIODS OF PAYMENT.**—Cash benefit shall be paid weekly where possible, and in no case less frequently than semi-monthly.

**SECTION 18. MATERNITY BENEFITS.**—Maternity benefits shall consist of:

All necessary medical, surgical and obstetric aid, materials and appliances, which shall be given insured women and the wives of insured men.

A weekly maternity benefit, payable to insured women, equal to the regular sick benefit of the insured, for a period of eight weeks, of which at least six shall be subsequent to delivery, on condition that the beneficiary abstain from gainful employment during period of payment.

**SECTION 19. FUNERAL BENEFIT.**—The carrier shall pay the actual expenses of the funeral of a deceased insured member, as arranged for by the family or next of kin, or in absence of such by the officers of the fund, up to the amount of \$50. The funeral benefit shall be paid in case of death of a former member while in receipt of sick benefits, or death within six months after discontinuance of sick benefits because of the exhaustion of the time limit, provided he has not, within those six months, returned to work.

**SECTION 20. ADDITIONAL BENEFITS.**—The carriers may grant additional or increased benefits, with the consent of the Commission.

**SECTION 21. EXTENSION OF INSURANCE.**—When contributions cease on account of unemployment not due to sickness, the insurance shall continue in force for one week for each four weeks of paid up membership during the preceding twenty-six weeks.

**SECTION 22. DIVISION OF EXPENSES.**—The expenses of the funds shall be met by contributions from employes, employers and the state. The state shall contribute one-fifth of the total expenditures for benefits, subject to the provisions of Section 42; one-half of the balance shall be paid by the employer, one-half by the employee, except that if the earnings of the insured fall below \$9 a week, the shares of the employer, employee and state shall be the proportion indicated in the following schedule:

If earnings are under	But not under	Employer	Employee	State
\$9	\$8	48%	32%	20%
8	7	56%	24%	20%
7	6	64%	16%	20%
6	5	72%	8%	20%
5	..	80%	0%	20%

In all cases the contributions shall be computed as a percentage of wages.

**SECTION 23. AMOUNTS OF CONTRIBUTIONS.**—The amount of the contributions shall be computed so as to be sufficient for the payment of benefits and the expenses of administration of the fund and necessary reserve and guarantee funds.

**SECTION 24. RATES OF CONTRIBUTIONS.**—In funds in which employes in several industries are insured, the percentage rates of contribution may be different for different industries, according to the sickness experience.

**SECTION 25. DIVISION OF THE STATE INTO DISTRICTS.**—The Commission shall, within six months after this act goes into effect, divide the state into districts, no one of which shall contain less than five thousand persons subject to compulsory insurance; and shall establish one or more local or trade funds in each district.

**SECTION 26. AUTHORIZATION BY COMMISSION.**—No fund shall begin business until it is authorized by the Commission. The Commission shall authorize a fund only after approval of its constitution and after the names and addresses of the board of directors elected for the first year have been filed with the Commission.

**SECTION 27. POWERS OF FUNDS.**—Funds shall have all the power necessary to the carrying out of their duties under this act.

**SECTION 28. CONSTITUTION OF FUND.**—Subject to the provisions of this act, the constitution of a fund shall contain: Name of the fund and location of its principal office; if the fund is a trade fund, designation of the trade or trades for which it is created, maximum percentage of wages in each occupation at which the regular contribution may be fixed; nature and amount of benefits and length of time during which they shall be given; manner of election, number, powers,

duties, and time of meeting of the committee; number, powers, duties, and time of meeting of the board of directors; method of amendment of constitution; and such other provisions as may be directed by the Commission.

**SECTION 29. COMMITTEE OF THE FUND.**—There shall be a committee of each fund which shall consist of not less than twenty and not more than one hundred members, to be elected annually in the manner provided in the constitution, one-half by and from the employer members of the fund, one-half by and from the employee members. The committee shall pass upon the annual account and report submitted by the directors.

**SECTION 30. EMPLOYERS' VOTES.**—Each employer member shall have as many votes for employer members of the committee as he employs workmen subject to the insurance and members of the fund, except that no one employer shall have more than 49 per cent of the total vote cast by employers unless otherwise provided in the constitution.

**SECTION 31. BOARD OF DIRECTORS.**—The board of directors shall be elected by the committee for a period of one year. All directors must be citizens of the United States. The board shall consist of not less than eight and not more than eighteen directors, one-half of whom shall be elected by employer members of the committee, and one-half elected by employee members of the committee. No one shall be a member of the committee and a director at the same time. The compensation of members of the board shall not be more than \$5 a day for each day of attendance upon the meetings of the board.

**SECTION 32. RESERVE.**—Every local or trade fund shall accumulate a reserve. The board of directors shall transfer to such reserve one-twentieth of the annual income of the fund until such reserve is about equal to one-sixth of the total expenditures for the preceding three years. The reserve shall be maintained at this level. Any surplus which may accrue from the investment of such reserve may be transferred into the general account of the fund.

**SECTION 33. PAYMENT OF CONTRIBUTION.**—Every employer must pay to any local or trade fund on the date on which he pays his men, or at least monthly, the total contributions due from him and from his employes to such fund. He may deduct the sum paid as contribution due from each employe from his wages, but must inform him, in a method to be approved by the Commission, of the amount so deducted.

**SECTION 34. MEMBERSHIP IN FUND.**—Every person subject to insurance shall be an insured member of the trade fund of the trade at which and in the district in which he is employed; or if there be no such fund, of the local fund of such district; provided that while he is a member of an approved society he shall be excluded by the board of directors from membership in the fund. The Commission shall provide by regulation for the case of persons regularly occupied at one trade but temporarily employed at another. Membership in a local or trade fund shall cease as soon as the insured becomes a member of another local or trade fund. Any employer shall be an employer member of all funds of which any of his employes are members.

**SECTION 35. VOLUNTARY INSURANCE.**—A person entitled to voluntary insurance must be admitted on application to membership in the trade fund of his trade in the district in which he is employed, or if there be no such fund, then in the health fund of such district; provided, that, except for persons who have been compulsorily insured members within the last twelve months, the by-laws of any fund may prohibit the admission to voluntary insurance of a person who has not passed a satisfactory medical examination by its medical officers, and that the application for admission be subject to the same condition as an application for ordinary life insurance. The contribution of the voluntary member shall be equal to the contribution required of the employer and employee for a compulsory member of the same trade and earnings.

**SECTION 36. LOSS OF VOLUNTARY MEMBERSHIP.**—A person voluntarily insured loses his membership if he acquire membership, either voluntary or compulsory, in another fund or society, or if he be in arrears for one month in the payment of his contributions, unless this period be extended by the constitution.

**SECTION 37. FINES AND PENALTIES.**—Funds may fine their employer and insured members and suspend members from benefits for violation of their rules or regulations or for fraudulent representations made with the intent of securing or aiding another to secure benefits, in accordance with rules approved by the commission providing for such fines or suspensions. If an employer fail or refuse to pay the contribution which he is required to pay under this act the carrier to whom they are due may recover the whole sum with interest at 6 per cent by suit in a court of competent jurisdiction, and the employer shall not be entitled to deduct any part of the sum from the wages of his employee or employes.

**SECTION 38. APPROVED SOCIETIES.**—A labor union, benevolent or fraternal society or an establishment society shall be approved by the commission only after hearing the local or trade funds affected and only if:



## CONSTRUCTIVE MEASURES

### Program of REMEDIAL WORK

to be carried out by

### County Health Association

#### I. Organize an efficient system of

- a. Medical Service
- b. Nursing Service

Resident  
Visiting  
School  
Trained attendants

#### c. Social Service

for the care of the sick in their homes and for the care of the home during sickness.

#### II. Stimulate the provision of additional facilities where and when needed, such as

##### a. Hospital beds for

General medical and surgical cases  
Contagious diseases  
Venereal diseases  
Tuberculosis  
Alcoholism  
Mental disorders

##### b. Out-patient clinics

At hospitals  
In outlying rural districts

## CONSTRUCTIVE MEASURES

Program of

### PREVENTIVE WORK

to be carried out by

### County Health Association

### INDIVIDUAL HEALTH

Promotion of health of individual through instruction

- a. In Personal Hygiene
- b. Regarding nature of Communicable Diseases
- c. About the evil effects of bad housing and unfit Social and Industrial Conditions

### PUBLIC HEALTH

Adoption and strict enforcement of public health measures through

- a. Cooperation with State Dept. of Health
- b. Cooperation with local health officers
- c. Reform movements as for example

- (1) Improved child hygiene
- (2) Better housing
- (3) The prevention of feeble mindedness, epilepsy and tuberculosis.

Constructive Measures Suggested by State Charities Aid Association.

It is not carried on for profit, but reasonable salaries paid officials shall not be considered profit.

It is under the absolute control of the insured members in so far as the insurance regulated by this law is affected, except that the employer may appoint one-half of the governing body of an establishment society.

It shall satisfy the commission that it is in a sound financial condition.

It grants at least the minimum benefit provided in this act.

It has a membership of at least five hundred persons insured for at least the minimum benefit provided under this act, or their equivalent, except that in the case of establishment societies in which the employer satisfactorily guarantees the payment of benefits, the number of members may be fixed by the commission.

Its operation will not, in the opinion of the commission, endanger the existence of any local or trade fund.

In case of an establishment society, a majority of the employees subject to insurance request approval, and the employer's contribution is at least equal to that of all the employees.

The approval of the commission may be withdrawn at any time upon its finding, after hearing the society affected, that any of the required conditions are no longer satisfied. The commission may, after a hearing, permit an establishment society to accept, on conditions satisfactory to the commission, as members all persons subject to insurance in its district.

**SECTION 39. EMPLOYERS' CONTRIBUTIONS.**—The commission shall assess upon every employer any of whose employees are insured in labor union, benevolent or fraternal societies a sum equivalent to the employers' contributions had such employees been members of funds. This sum shall be paid in monthly installments into the guarantee fund established by the commission.

**SECTION 40. STATE CONTRIBUTIONS.**—The state shall contribute to every approved society one-fifth of its total expense for benefits and for the expense of health insurance under this act, subject to the provisions of Section 42.

**SECTION 41. HEALTH INSURANCE UNION.**—Two or more health insurance carriers within a district may combine for the administration of the medical benefit, subject to the approval of the commission. The commission may, after notice to and hearing of the parties of interest, withdraw its

approval and dissolve the union, making such disposition of its property as may seem to it in the best interests of the insured.

**SECTION 42. GUARANTEED FUND.**—The commission shall reserve 10 per cent of the contributions of the state to the carriers and pay it into a fund to be known as the guarantee fund, from which it shall contribute for the relief of any carrier on the application of its board of directors after investigation by the commission. A contribution shall be made only where, in the judgment of the commission, the necessity arises from epidemic, catastrophe or other unusual conditions, and shall never be made where, in the opinion of the commission, the deficit is due to failure or refusal of the directors to levy proper rates of contributions. When and as long as, in the opinion of the commission, the guarantee fund is sufficient, the commission shall make no reservation for this purpose.

**SECTION 43. STATE SOCIAL INSURANCE COMMISSION.**—A state social insurance commission is hereby created, consisting of three commissioners, to be appointed by the governor, one of whom shall be designated by the governor as chairman and one of whom shall be a physician. The term of office of members of the commission shall be six years, except that the first members thereof shall be appointed for such terms that the term of one member shall expire on January 1, 1918; one on January 1, 1920, and one on January 1, 1922. Each commissioner shall devote his entire time to the duties of his office and shall not hold any position of trust or profit, or engage in any occupation or business interfering or inconsistent with his duties as such commissioner, or serve on or under any committee of a political party. The commission shall have an official seal which shall be judicially noticed.

**SECTION 44. SECRETARY.**—The commission shall appoint and may remove a secretary at an annual salary of ———. The secretary shall perform such duties in connection with the meetings of the commission and its investigations, hearings and the preparation of rules and regulations under the provisions of this act as the commission may prescribe.

**SECTION 45. OFFICERS AND EMPLOYEES.**—The commission may appoint such officers, other assistants and employees as may be necessary for the exercise of its power and the performance of its duties under the provisions of this act, all of whom shall be in the competitive class of the classified civil service, and the commission shall prescribe their duties

and fix their salaries, which shall not exceed in the aggregate the amount annually appropriated by the legislature for that purpose.

**SECTION 46. SALARIES AND EXPENSES.**—The chairman of the commission shall receive an annual salary of ——— and each other commissioner an annual salary of ———. The commissioners and their subordinates shall be entitled to their actual and necessary expenses while traveling on the business of the commission. The salaries and compensation of the subordinates and all other expenses of the commission shall be paid out of the state treasury upon vouchers signed by at least two commissioners.

**SECTION 47. OFFICERS.**—The commission shall have its main office in the capitol of the state and may establish and maintain branch offices in other cities of the state as it may deem advisable. Branch offices shall, subject to the supervision and direction of the commission, be in immediate charge of such officials or employees as it shall designate.

**SECTION 48. POWERS OF INDIVIDUAL COMMISSIONERS.**—Any investigation, inquiry or hearing which the commission is authorized to hold or undertake may be held or undertaken by or before any commissioner and the award, decision or order of a commissioner, when approved and confirmed by the commission and ordered filed in its office, shall be deemed to be the award, decision or order of the commission. Each commissioner shall, for the purpose of this act, have power to administer oaths, certify to official acts, take depositions, issue subpoenas and compel the attendance of witnesses and the production of books, accounts, papers, records, documents and testimony.

**SECTION 49. POWERS OF COMMISSION.**—The commission may adopt all reasonable rules and regulations and do all things necessary to put into effect the provisions of this act.

**SECTION 50. JURISDICTION OF COMMISSION TO BE CONTINUING.**—The power and jurisdiction of the commission over each case shall be continuing, and it may, from time to time, make such modification or change with respect to former findings or orders thereto as in its opinion may be just.

**SECTION 51. REPORT OF COMMISSION.**—Annually on or before the first day of February the commission shall make a report to the governor, which he shall lay before the legislature, which shall include a statement of the apportionment of the state contribution, statistics of sickness experience under this act, a detailed statement of the expenses of the commission, the condition of the state guarantee fund, together with any other matter which the commission deems proper to report, including any recommendations it may desire to make.

**SECTION 52. SOCIAL INSURANCE COUNCIL.**—The social insurance council shall consist of twelve members, six of whom shall be elected by employer directors of the local and trade funds and six by employee directors of the local and trade funds; their term of office shall be two years, except that in the first election three of the employer and three of the employee members of the council shall be elected for one year; they shall receive a compensation of ——— a day for each day spent on the business of the council and shall be reimbursed for reasonable expenses.

**SECTION 53. OFFICERS OF COUNCIL.**—The council shall elect a president from its own number; the secretary of the commission shall act as the secretary of the council.

**SECTION 54. MEETINGS OF COUNCIL.**—The council shall meet during the first week of December, of March, of June, of September, each year. Special meetings shall be called by the president on the request of at least five members of the council or of two members of the commission, at any time.

**SECTION 55. DUTIES OF COUNCIL.**—The annual report and recommendations of the commission shall be laid before the December meeting of the council before transmission to the governor and the council may approve them or make a separate report and recommendations to the governor. All general regulations proposed by the commission shall be laid before the council at a regular or special meeting for discussion before final adoption, except in cases of urgency, to be determined by the commission and in this case the regulation shall be laid before the next regular meeting of the council or a special meeting called for the purpose.

**SECTION 56. MEDICAL ADVISORY BOARD.**—The state medical societies shall choose a medical advisory board, which shall be consulted on medical matters.

**SECTION 57. SETTLEMENT OF DISPUTES.**—All disputes arising under the act, except those provided for in Sections 14 and 58, shall be determined by the social insurance commission, either on appeal from the proper authority or from the carrier or, in case of disputes between carriers, by original proceedings. The commission may assign any dispute for hearing and determination to a dispute committee composed of one employer and one employee member of the council, and a member of the commission, as chairman, the members of the council to serve in turn on the dispute committee to the commission within thirty days from the date of rendering the decision.

**SECTION 58. MEDICAL DISPUTES.**—All disputes regarding medical benefit which have been appealed to the commission shall be referred by the commission to the medical advisory board, which shall report to the commission and the commission shall not decide any such dispute until after a report has been made by the board.

**SECTION 59. SUITS AT LAW.**—Suit shall not be brought in any court on any matter on which an appeal is allowed to the commission, until after a decision by the commission or of a dispute committee and the statutes of limitations shall not begin to run in such cases until after decision of the commission or dispute committee is filed.

#### RELATION OF PHYSICIANS TO HEALTH INSURANCE LAWS.

It is axiomatic that the medical profession is a necessity in the carrying out of any health insurance laws. It is equally self-evident that any laws controlling medical benefits and the medical profession must be so formulated as to render justice to three groups of human beings with often diverse interests; that is, the insurance carriers, the workmen and the physicians. The interests of these three groups are not incompatible if the balance of strict justice is kept even, but there is endless friction and endless and bitter antagonism if this strict justice is not given. In the carrying out of these insurance laws in Europe the physicians have had to fight to obtain the justice that was due them. In Germany the friction has been between the insurance carriers and the physicians. The physicians have rendered adequate service to their patients. When in the struggles the adequacy of the service was questioned, the German government has forced the offending bodies, whether insurance carriers or physicians, to give in. The justice of the doctors' cause has been shown by the fact that they have won nine-tenths of their struggles. In England, on the other hand, the struggle has been between the insurance carriers and the government against the physicians. The physicians have won against the carriers, divorcing themselves from that lay control, and have forced a compromise from the government, and in the net results have carried the majority of the contested points. The result, however, has been a compromise, since the physicians receive a better compensation than in Germany, although they do not give as adequate a service to the patient.

Following the example of the profession in England, the physicians will, without doubt, in this country demand that they have adequate representation on the various controlling bodies administering the law. This will probably be true for the representation on the insurance commission itself and then on down through the various arbitration and executive committees to their own committees composed only of panel physicians or physicians actually using the insurance work among the workingmen. After the adequate representation specified in the law it would seem wisest to leave further regulation of the medical work to be done under the health insurance act, not to the hard and fast designation of the law itself, which may be changed only through legislative action, but to the medical regulations under the commission, which would, therefore, be more flexible and could be changed easily by executive act.

It has been found necessary in all countries abroad to have committees of physicians who do the insurance work



who meet regularly and who have the power of scrutiny over the economy or extravagance in the ordering of drugs, and who have some degree of power for the discipline of physicians in minor matters and who hear and decide disputes among the physicians themselves. Complaints between the physicians and the societies or between the physicians and the carriers or between physicians and workmen go to other committees, composed both of the workmen and the physicians. In England, particularly, there are committees representing all the physicians, whether on a panel or not, in a given neighborhood. There are also, as has been pointed out, other committees to which disputes go on appeal. These committees are either regularly instituted, as in Germany, and are permanent, or they may be formed as inquiry committees for the time being, as in England, to consider certain definite disputes or definite questions in dispute laid before them for referee decision under the commission. The German method of appointment of committees is the simpler and more direct, that of the English law being much more complicated and demanding more detail in its regulations.

One of the questions most persistently fought by the profession in Germany and one point which was won by the profession in England is that of free choice of the physician by the patient. This, of course, must be within the limitations of consent by the physician to have the patient, and with the physician chosen especially within a reasonable distance of the patient, that he may give good service. Against this free choice one party in Germany, as represented by the Dresden Society, has insisted on having any given area divided into districts and a salaried physician placed in each district. All insured persons are expected to consult the doctor in their district, but in case of dissatisfaction their wishes are consulted as far as possible. All appointed doctors are free to engage and do engage in private practice.

Still another method sometimes advocated is that practically of a state medical service, with salaried physicians in which all persons in a certain district are given the medical attention of certain specified physicians, or, of course, there may be free choice of physicians among a certain limited number of district doctors. This state service has best been exemplified in late years in the medical service rendered in the Panama Canal zone. It was here shown how brilliantly and successfully such a generalized system of state medicine could be carried out in certain areas.

Left to the profession to decide, it is probable that free choice of physician, without limitation, will be chosen in the majority of instances. There is no question that the human relation between physicians and patient will be demanded and should be granted, even under health insurance laws or under state medicine, where possible.

Even with the free choice of physicians there must be regulated the limit of the panel or the limit of the number that any one physician may enroll to whom he is willing to render service. It is a curious feature in the working of the English law that two years after the act has been in operation the Fabian committee reported that one-fifth of the physicians were caring for one-half of the patients. Thus, there was the evidence of overcrowded panels and hurried and inadequate service, which is, as has already been said, the curse of the capitation system of payments and of lodge practice. There must, therefore, be the limitation of the number of patients or families that a physician can care for. Considering that in all probability each patient will be sick ten days in a year, one can calculate the probable number of patients that could be visited daily. For instance, if a thousand patients, or 500 families, with three to a family—that is, 1,500 patients—were permitted to each physician, he would have from 10,000 to 15,000 sick days a year to care for. That would be from twenty-eight to forty-two patients a day of minor and major ailments. This will be recognized as being all that can be conscientiously well cared for.

#### REMUNERATION OF PHYSICIANS.

The medical service is always an individual one, and the state requires it to be individual. Medical public opinion de-

mands that the physician shall give an adequate and just service to his patient, and that the physician shall not permit himself to be placed in positions where he gives careless, incompetent service, to the injury of those under his care. Any physician neglecting this standard loses caste. All medical service is really a contract, and many physicians under salaries, such as with insurance companies or railroads, are not condemned, nor do they lose caste by accepting such contracts. But any contract which carries with it an unreasonable amount of work by the doctor, which in turn forces neglectful, hurried service to the patients, is always condemned.

Lodge practice and other condemned forms of contract practice are all under the capitation plan of remuneration and the capitation idea of service under sickness insurance has necessarily these inherent faults, which cannot be eradicated and can be controlled only to a limited extent if they can be controlled at all. By this form of capitation is meant the per patient per year form of payment to the doctor. Another form of capitation which is used abroad is frequently used in a compromise with the free choice system of the doctor by the patient; that is, a sickness society has a certain amount of funds that it can pay for medical services to the doctors. This lump sum it gives to some association of doctors and the physicians charge up each visit and each act of service rendered to each patient as so many points of work done against the medical society. Usually every three months each physician hands in his account to the medical society and the total number of points are divided into the total amount of funds and the remuneration paid to the physicians pro rata.

There is, in some parts of Germany, the regularly paid physician under definite salary from the society. This might or might not work out well, because it would be a similar form of contract to that of the railroad surgeons, but it would be very liable in sickness insurance to be abused and soon the inherent faults, as in capitation, would develop. Moreover, any sickness insurance society could hire only a certain number of physicians, and unless they arbitrarily refused free choice of physicians to their members and divided them in equal numbers among their salaried physicians, the natural difference in personality of the physicians would immediately cause the practice of some to be overcrowded, while that of others would be neglected, and again the inherent faults under capitation would develop.

It has been generally claimed that free choice of physicians and this visitation method of so much per patient per visit always increases the number of visits and the expense of medical care to the insuring societies. These claims, however, were not substantiated in an investigation of the subject in Manchester, England.

#### WHO SHALL DECIDE WHEN A PATIENT HAS RECOVERED.

In all sickness insurance there is one mooted question that constantly arises, and that is, Who shall decide any dispute between a physician and an insured member as to whether or not this patient should go back to work and his benefits cease? There is always trouble if this work is left to the panel physician alone. Patients will demand leniency, will go to the doctors who are lenient and physicians, unless of rugged character, will be afraid of losing their patients and injuring their income unless they are lenient, and thus the expense of the insurance carriers will be enormously increased by a continuance on the sick list of patients who should be at work. If, whenever this mooted point arises, the decision could be referred to some impersonal committee or to some regularly constituted salaried medical referee, it would enormously improve the working of the insurance act.

#### THE SPECIALIST IN HEALTH INSURANCE PRACTICE.

From the patient's point of view efficient medical service is necessary. Any general sickness insurance law among the poor will develop an increase of medical service and demands. Some form of sickness or injury has been the calamity through which the poverty of the poor has been changed to destitution in the majority of those applying to charity for

aid, so that often all that has separated poverty from destitution has been the ability of the wage earner to go to work each day. Just so soon as the wage earners realize that they can have medical care as their due, without further expense than already borne by them, it is bound to increase enormously the demands on the medical profession. Adequate medical services to the patient must contain, at times, the possibilities of more than the average practitioner can necessarily furnish. The standard demanded from the individual practitioner will probably not exceed that demanded under the English act, which considers that adequate medical attention and treatment is that treatment of a kind which can consistently, with the best interests of the patient, be properly undertaken by a general practitioner of ordinary professional competence and skill.

In the sickness societies of Germany there are any specialists to whom the patients may go. The Leipzig society employed 130 specialists and twenty-four dental surgeons out of its total of 400 doctors; the Dresden society, sixty-four out of its total of 226. The ratio of specialists to general practitioners should be at least one to five.

#### HOSPITALS AND DISPENSARIES UNDER A HEALTH INSURANCE LAW.

This brings us to the question of the dispensaries, and, back of the dispensaries, the hospitals. Up to this time the dispensaries and<sup>6</sup> the hospitals have been the expression of the amount of free medical care that the city or state governments or private corporations were willing to give to the poor. A well-conducted and well-organized dispensary offers the most economical and efficient method of giving to the patient the many specialized medical services that the varying nature of their illnesses may require. More diversified medical and surgical work is performed in the dispensary than is performed in the hospitals. There is less specialized service in the majority of the hospitals than in any dispensary of even moderate size. But there are more hospitals given over to special work than there are dispensaries so constituted, although most special hospitals have also a dispensary attached to them for the sake of obtaining patients to fill the hospitals. Most of the medical positions in dispensary or hospital are occupied without remuneration, the medical experience being sufficient compensation in this country for whatever time or knowledge the doctor may bestow. Abroad, in certain countries, similar positions have a salary attached to them, and medical men are not expected to give their medical or surgical knowledge and services uncompensated.

Under the sickness insurance law, the general dispensaries present opportunities for an adequate and well developed method of furnishing abundant services in special branches of medical or surgical care to all patients who are not so sick as to require hospital care and who may require some special service which the average general practitioner cannot give them. The problem, however, will arise whether or not the dispensaries should be confined to the use of the development of the specialties and all the general medical care given in the homes of the patients or whether patients shall be allowed to choose between their own doctor and some general practitioner in the dispensary as far as the general medical care is concerned. This is a question which contains serious possibility of dispute. It may be that the general medical classes of a dispensary may, in the end, be developed into a place where patients may go for expert diagnosis on the plane of the consultant, being referred back to their physician for care or being referred to specialists, if such be necessary; the dispensaries becoming then an institution for special care or expert diagnosis and not containing, as now, classes in ordinary internal medicine. However this may be decided, medical services rendered in the dispensary must, in future, receive remuneration and free dispensaries soon be a thing of the past. Physicians in the dispensaries, moreover, must be under control of the committees controlling the doctors in general insurance practice, and if the dispensaries are run by private corporations, it must be within the power of the commission to forbid persons under the insur-

ance act to go to dispensaries which do not give adequate medical service.

#### HEALTH INSURANCE IN RELATION TO THE PUBLIC DISPENSARY.

Dr. I. M. Rubinow, New York, in a paper on this subject states that health insurance as proposed in this state (New York) and several others is an application of principles to the grave problem of poverty and disease. No one knows as well as those who administer outpatient clinics, the enormous amount of disease that exists among the poor classes of the community, how much of it is socially unnecessary and preventable; how much of it is due to malnutrition or poor housing, and how much the unsatisfactory uneconomic conditions are aggravated by bodily ailment. The very definition that the dispensary "is an institution for the proper treatment of the sick who are too poor to pay for medical advice and treatment and are not eligible for admission to hospital," combined with the statistics that in New York at least literally millions of people are treated in these institutions, indicates the extent of the problem.

The author referred to the Mills bill as an example of what may be done to alleviate the conditions described. This bill proposes the organization of a system by which a substantial benefit, equal to two-thirds of wages for twenty-six weeks, should be guaranteed to each ill wage-worker, and that in addition thorough medical aid be furnished. It is not intended as a system based upon charity. Financially it is to be self-supporting. Following the essential principles of social insurance, the entire cost is not to fall upon the wage-workers. In the Mills bill the proposed distribution of the cost was to be as follows: Forty per cent to be contributed by the insured employee, 40 per cent by the employer and 20 per cent subsidy to be furnished by the state. In addition to the medical and financial benefit, also a small funeral benefit is to be provided. Other essential benefits of health insurance systems which have for some reason or other been omitted from the original Mills bill are very likely to be introduced in a subsequent measure, especially the extension of medical benefit to the family and a maternity benefit for the wage-working women as well as the wives of insured workmen.

The method of organization proposed has been partly adopted from the German standard. It presupposes the organization of local health insurance associations after a state had been redistricted for that purpose, those associations to be democratic in their organization and under the joint control of the employers and employees, but also under direct state supervision. Since, however, various organizations for health insurance already exist, the way is left open for preserving them, although it is felt that the advantages of local associations are so great that no effort should be made to stimulate the organization of insurance interests on other lines. Thus, the trade union sick benefit fund and the fraternal order sick benefit fund, and even the establishment funds, if brought up to the requirements of efficiency indicated by the law, may be retained.

The writer urges that at least one way of approach to the entire problem of dispensary organization is a system of fair remuneration for the physicians who are called upon to perform the work. This may not solve the entire problem, but surely it would do away with most of the attacks upon these useful and necessary institutions. It is no argument to his mind that dispensaries are charitable institutions. In the absence of social facilities charity may be practiced by those who have an abundance of earthly goods. The young physicians who are performing arduous work in a hundred dispensaries or more do not belong to the class which may be expected to practice charity.

The considerations advanced applied to the dispensary problem as a whole, irrespective of the existence of the health insurance system, but the introduction of such a system brings with it several new factors, or, at least, increases the importance of some already existing. If a compulsory health insurance system is established in the state of New York, this would mean that two million wage-earners would be in a position collectively to buy the medical aid which a good many



of them in the past were forced to obtain free from dispensaries or some institutions. If, as is extremely likely, the new Mills bill of the future will do what the original Mills bills refused to do and cover medical aid not only to the wage-earners, but also to their wives and children, then it may be assumed that not two million but probably nearer five or six million will be covered by health insurance, at least as far as medical aid is concerned. It will be impossible to claim then, as it can be claimed now, that there are millions of people unable to pay for medical aid. What, then, would be the status of dispensary practice under new conditions? Several possibilities offer themselves, of course.

"1. It is possible that the mass of the insured when freely furnished with medical aid on some basis or other, but paid medical aid in any case, will cease to apply to dispensaries or send their wives and children to them, so that at one stroke the necessity for dispensaries will not altogether vanish, but substantially decrease. I do not know whether such a contingency will be welcomed by your organization or not, but any way, it is evidently one of the possibilities.

"2. It is possible that a certain proportion of the insured and their families, having acquired a dispensary habit, as it were, might continue to apply to you for medical aid, reasoning that in view of the presence of many specialists in your institutions the character of the medical aid furnished by you may be higher than that furnished through the paid organization. Then the question must necessarily arise whether you will continue granting medical aid free or for nominal charge to those people who in view of the law are in a position to pay for it; whether you will expect a larger fee from them or exclude them altogether.

"3. It is possible that the associations might want to make arrangements with your organizations for medical treatment on a paid basis, either because they might expect to get it cheaper or because they might expect to get better service in this way. It is no secret that this very possibility under the Mills bill, whether it be a real danger or not, was one of the features most violently objected to by a good many physicians now practicing among the wage-working population."

Perhaps the dispensary will become a place for specialized work and consultation only. It may grow into a co-operative organization of physicians practicing together. In so far as the insured and paying patients are concerned, it should be possible to eliminate entirely the element of charity out of such organizations.

Approaching the problem purely as a statistician and economist would, the author would want to know the extent of the dispensary practice in large communities and the total number of patients as well as the total number of visits; the proportion between these numbers and the total population, and what is more difficult, the total amount of sickness in the community. He would also want to know what particular ailments the patient came for; whether specialized work is growing at the expense of the general practice or not. It would be extremely interesting to find out whether the same elements in the population of a city applied for general medical advice and for specialized assistance in the dispensaries. But neither must the information concerning the doctors be disregarded. It would be extremely important to know the number of physicians rendering service paid and unpaid in these institutions in proportion to the total medical profession of the community; the actual amount of time they devote to this unpaid work.

In the development of such a study many other questions would arise. He knows of nobody which could undertake such work, either singly or in co-operation with the committee, better than could the Association of Outpatient Clinics in New York, and he expressed the hope that such a co-operation might be achieved for the benefit of both the working population and the medical profession of New York state.

#### HEALTH INSURANCE IN RELATION TO PUBLIC HEALTH.

Dr. Rubinow states that health insurance deals with the economic losses incurred because of disease. These losses,

at least as they are apparent on the surface, are twofold. First, the loss of earnings, due to disability produced by sickness, and, secondly, additional expenses incurred through sickness, which are largely expenses for the purpose of achieving recovery, such as the cost of medical or surgical aid, drugs or special supplies, hospital attendance, special care and nursing. It is generally known that health insurance, like many other forms of insurance, may be bought from commercial insurance companies in the open market, or obtained through membership in a large variety of mutual benefit organizations.

The wage or salary contract offers a very convenient method for exercising compulsion, not only on the wage-worker himself, but, what is equally important, on his employer. While compulsory health insurance for these reasons must necessarily be limited to wage-workers or salaried persons, voluntary health insurance may be incurred with advantage among other social groups. That an immense amount of gold must come from the payment of cash benefits to men unable to work because of sickness should be self-evident to the medical profession. Charity workers and other social workers are almost unanimous in their assertion that sickness is responsible for the greatest proportion of destitution with which they are called on to deal professionally. Collectively, physicians see even a larger amount of human distress caused by illness, since their observation is not limited to the more extreme cases, which become objects of charitable relief; for the average respectable workingman's family will go a long way, depriving itself of everything above the barest necessities before applying for charitable aid.

The proper organization of medical aid, however, is a problem for the physician because of the possible effect of health insurance on the health of those insured, and through them on the health of the community at large. Even the duty of the individual physician to his patient is not yet fully complied with when the diagnosis is made and the necessary course of treatment outlined. The physician cannot complacently close his eyes to the conditions under which his patient lives and the extent to which he is physically able to comply with the advice given. The development of medical social service is an indication that the medical profession is gradually learning to appreciate its broader duties in this matter. But still broader are the obligations of the collective medical profession to the nation at large in the matter of preservation of public health.

The prevention of excessive illness will more than anything tax the expert in industrial and public hygiene. The best conditions for realizing the preventive effect may be determined and the medical profession may render a service of great value in insisting that such conditions shall be established.

1. The health preserving effect of the money benefit. The effect of the money benefit is evidently not limited to relieving misery and destitution for the time being; it is even more important in giving a better chance for recovery. It needs no demonstration that recovery from any illness must be seriously interfered with by insufficient food or fuel or by the mental worry over financial difficulties. It is an aspect of the problem with which every physician practicing among the poor must be thoroughly familiar, and it is unnecessary to dwell on it at length. But in order that this effect shall be fully realized the benefit must be substantial. A small amount, perhaps uniform for all (as, for instance, the bare \$5 a week given by most trade union funds at present, out of which even medical care must be furnished) will not be sufficient. The medical profession, therefore, as the warden of the public health, has a direct interest in seeing that these benefits be made substantial, so as to cover the cost of the necessities at least.

2. Equally important for its curative effect and the prevention of relapses is the opportunity gained to stay away from work when in the physician's opinion rest is necessary. This may be largely nullified by too rigid an interpretation of the concept, "inability to work."

The preventive effect of health insurance cannot fully be realized until it is understood that not merely physical dis-

ability, but medical advisability, certified by a responsible medical officer, and subject to rule of reason and review, should be the basis of the sick benefit. It has been charged against British practitioners under the law, for instance, that they have improperly certified a large number of female employes simply for anemia and debility. Such liberality is found dangerous, because the British system is based on an ironclad level of premiums and the cost must be kept within the level; but from a point of view of public health it is very much more important that thousands of young women, the mothers of the future generation, suffering from anemia and debility, which in the final analysis means nothing but overwork and underfeeding, should be given a chance to recover, even if the cost of insurance may be slightly increased thereby. It is the failure to understand this difference between disability and inadvisability to work that causes many superficial critics to deny the preventive feature of sickness insurance in Germany.

But the effectiveness of medical aid depends very largely on the thoroughness of provisions concerning it. From a purely financial or insurance point of view, the reimbursement of the additional cost required for medical advice, or the saving of expense by furnishing the same quality of medical aid which the sick workman would have purchased, is all that is necessary. Applying the same reasons, nothing need be done in cases where the patient could have received medical aid free or where he would not have been likely to call for medical aid, because in insurance practice where there has been no financial loss there should be no compensation.

If the medical profession is the guardian of the public health it must be vitally interested in the proper organization of medical aid under the health insurance law. It is obvious that since such a law undertakes to furnish medical aid to millions of people, a new wholesale purchaser of medical services appears in the place of many individual purchasers, and that this must profoundly influence the economic and social status of the medical profession.

A system of medical aid which fails to provide for such teamwork, which interferes with any degree of medical organization, either because of considerations of economy or because of conservative clinging to old standards—in other words a system which leaves the quality of medical aid where it has been before the introduction of health insurance—will utterly fail to make insurance a powerful fulcrum for lifting general health conditions.

Whether medical aid under health insurance will accomplish all that it is capable of depends on such details as availability of consultant and specialist; arrangements for hospital care; additional care for convalescents, and a liberal provision for drugs, appliances, etc.

The permanent improvement in health conditions of our people must largely come through organized care for the health of the children and the mothers of those children, present and prospective. If both the mothers and children be disregarded, no amount of medical care for the man alone can accomplish any far-reaching result. No one is in a better position to insist on the necessity of extending medical aid to the members of the family than is the medical profession.

Under a proper health insurance scheme the burden of cost is distributed among employer, employee and the state. The economic force is, therefore, somewhat diffused.

The American wage-working class has not yet been educated to the necessity of compulsory health insurance, and even those that have seen the light view it largely from the narrow point of view of immediate financial aid. It is on the intelligent and willing co-operation of the medical profession, the natural warden of the health of the nation, that the achievement of these far-reaching, if more remote, results very largely depends.

#### BIBLIOGRAPHY.

1. Report Judicial Council, A. M. A., June 21, 1915.
2. Henderson, C. R.: *Industrial Insurance in United States*, University of Chicago Press, 1909.

3. Walker, J. B.: *Femur Fractures*, American Journal of Surgery, December, 1914.

4. Nearing: *Wages in the United States*, New York. The Macmillan Co., 1908-10.

5. Senate Document No. 338, Sixty-second Congress, second session. Message of the president transmitting report of Workmen's Compensation Commission.

6. Senate Document No. 419, Sixty-third Congress, second session. Workmen's Compensation Investigation by commission of the American Federation of Labor and the National Civic Federation.

7. Twenty-fourth Annual Report of the Commissioner of Labor, 1909. Workmen's Insurance and Compensation Systems in Europe, Vols. 1 and 11.

8. Rubinow: *Social Insurance*.

9. Schwedtmann and Emery: *Accident Prevention and Relief*.

10. Seager: *Social Insurance*.

11. Gibbon: *Medical Benefit in Germany and Denmark*.

12. Frankel and Dawson: *Workman's Insurance in Europe*.

13. Eastman: *Work, Accidents and Law*.

14. Squier: *Old Age Dependency in the United States*.

15. Lewis: *State Insurance*.

16. Freidensburg: *The Practical Results of Workingmen's Insurance in Germany*.

17. *First Annual Report of the Industrial Board of Massachusetts*.

18. *Second and Third Annual Reports of the Industrial Commission of Wisconsin*.

19. *First Annual Report of the Board of Compensation Commissioners of Connecticut*.

20. *First Annual Report of the Workmen's Compensation Commission of Missouri*.

21. Andrews, J. O.: *American Year Book*, 1915, p. 448.

22. Andrews, John B.: *American Year Book*, 1915, p. 438.

23. *Twenty-fourth Annual Report, Commissioner of Labor, Vol. ii*.

24. *Report of Departmental Committee on Sickness Benefit Claims Under National Insurance Act, 1914*.

25. *National Health Insurance, Cd. 6581*.

26. Carr, Garnet and Taylor: *National Insurance*.

27. Halsey, Olga S.: *Thesis on the British Health Insurance Act*.

28. Frankel, L. K.: *Maternity Insurance*, New York Med. Jour., Dec. 18, 1915.

29. *Twenty-third Annual Report of the Commissioner of Labor, 1908*.

30. Warren, B. S., and Sydenstricker, Edgar: *Health Insurance: Its Relation to the Public Health*, Bull. 76, Treasury Department, U. S. P. H. S., pp. 63-64.

31. Frankel, L. K., and Dublin, L. I.: *Community Sickness Survey*, Pub. Health Rep., Feb. 25, 1916.

32. Rubinow: *Health Insurance in Relation in Public Dispensary*, New York, April 19, 1916.

33. Rubinow: *Health Insurance in Relation to Public Health*, June, 1916.

## Public Health

### INSTRUCTION IN AFTER TREATMENT OF POLIOMYELITIS.

On account of the relatively large number of cases of infantile paralysis in Illinois during the past few months and the requests for information in regard to the treatment of the resultant physical deformities, an arrangement is being made by the State Board of Health to have experts visit the localities in which the disease



was prevalent, to confer with resident physicians and, through them, with the parents of afflicted children.

In visiting the various localities, these experts will be available for conferences with local medical societies or with groups of local physicians in case such conferences are desired.

---

### AN ATTRACTIVE CERTIFICATE OF BIRTH.

The State Board of Health has arranged to send to the mother of every child whose birth is reported a handsomely engraved certificate of birth. This certificate will be accompanied by a copy of the booklet "Our Babies: How to Keep Them Well and Happy."

---

### MILK-SICKNESS IN JASPER AND GRUNDY COUNTIES.

Several cases of milk-sickness in Jasper and Grundy counties were reported recently by the State Board of Health. A generation ago, outbreaks of this kind were not uncommon in Illinois. So far as known, cases appear only where cows are pastured in thickly wooded country in the bottom lands.

A study of the cases which have appeared in Grundy County during the past fourteen years shows that with 40 cases the earlier 20 gave a mortality of 30 per cent, while the later 20 were accompanied by no deaths. The method of treatment adopted in recent years, consisting of free elimination and alkalies, seems to have been effective.

---

### PREPARING STANDARD PLANS FOR SANATORIA.

In view of the fact that eight Illinois counties voted to establish public sanatoria for the treatment of tuberculosis at the last general election, the State Board of Health is carrying on investigations of sanatorium construction and equipment for the purpose of furnishing information to the various communities. The County Tuberculosis Sanitarium Law provides that no county sanatorium shall be erected until the State Board of Health shall have passed upon and approved the plans. It is the purpose of the board not only to pass upon completed plans, but to be in

position to place in the hands of sanitarium trustees the designs of institutions which are proving acceptable in other parts of the country.

At a recent meeting of the Illinois State Association for the Prevention of Tuberculosis, held in Springfield, a resolution was adopted requesting the State Board of Health to co-operate with a special committee of the State Association in solving local community tuberculosis sanatorium problems.

---

### BIRTH AND DEATH REGISTRATION IMPROVING.

The time rapidly approaches when the representatives of the United States Bureau of the Census will investigate birth and death registration to determine whether or not Illinois shall be admitted to the "registration area" of the Nation. The Bureau of Vital Statistics of the State Board of Health reports that the returns on both birth and mortuary statistics are improving and are more nearly complete than ever before in the history of the state.

There is still evidence, however, of carelessness on the part of certain physicians and it is apparent that there will be some difficulty in tearing some away from the indifferent methods of a lifetime.

It will be doubly deplorable if, after the vast majority of physicians have responded to the call for complete birth and death returns, Illinois shall have to remain upon the discredited list of states—which is growing yearly smaller and smaller—on account of the indifference of a relatively small number.

Birth and death registration in Illinois are now as complete as a law alone can make them. Thoroughly satisfactory registration will depend upon an awakened interest on the part of the entire medical profession.

---

### ILLINOIS HEALTH NOTES.

Plans are being made for conferences of health officers in each of the five sanitary districts of the state to be held early in 1917.

\* \* \*

A state-wide conference of health officers will probably be held within the next few months in conjunction with the annual meeting of the Illinois Public Health and Welfare Association.

The Sanitary Engineering Bureau of the State Board of Health, of which Paul Hansen is chief engineer, has been removed from its temporary quarters in the State Arsenal to the newly-remodeled sixth floor of the State Capitol Building.

\* \* \*

The case of Canada Wendell vs. the City of Peoria et al., involving the right of boards of education to refuse admission to schools of unvaccinated children, has been dismissed by the supreme court. While the result is not definite and while the case was dismissed on technical grounds, the entire history of this case tends to support the belief that school boards have this right. An ordinance excluding unvaccinated school children was passed in Peoria. Canada Wendell applied to the circuit court for an injunction restraining its enforcement. The circuit court refused to grant this injunction and an application was made to Justice Carter, of the supreme court, in vacation. This injunction was granted. On the convening of the supreme court, the injunction granted by Justice Carter was dismissed.

## INTESTINAL TAENIASIS IN CHICAGO.

(Continued from page 416)

It is of interest that in none of the six cases were any of the classical symptoms of *Bothriocephalus latus* infection present even though in two cases the infection was of more than three years' standing.

*Taenia saginata* is undoubtedly the commonest tapeworm found in the United States. Stiles<sup>4</sup> examined, between 1891 and 1895, three hundred specimens of tapeworm, of which 297 were *T. saginata* and none *T. solium*. Of 28 specimens examined by him in 1905 23 were *T. saginata*, 4 were *Bothriocephalus latus*, and one was in too bad condition to determine. Of the 30 cases of *T. saginata* occurring in the records of this dispensary the source of infection of all but four cases was evidently local; 18 of the patients were life residents of Chicago and all but four had been in Chicago over twenty years, more or less, continuously. The youngest patient was 4 years of age, the oldest 58 years of age. All nationalities were represented and in no particular districts did infection appear to be more prevalent.

Thus 18 patients were Americans (over 2 generations in this country), 4 patients were Russian Jews, 3 were Germans, 2 patients each were Italian, Poles and Irish and 1 patient each from Canada, England, Denmark and Sweden.

All patients knew of their infection which had been first noticed from 2 weeks to 14 years prior to coming to us for treatment. No particular symptoms appear to be caused by this species. Treatment was carried out by various drugs with seemingly equal results. Six patients returned with the entire worm following the first treatment. All but nine patients have been seen at least six months after the treatment and had noticed no segments in the stools.

*Taenia solium* or pork tapeworm is very rare in the United States. Stiles states that between 1891 and 1905 no authentic specimens of *T. solium* were sent to him from this country. One case is found in our records: A Polish woman,<sup>5</sup> aged 40 years, came complaining of a diarrhea of three weeks' standing. She stated that she had been passing portions of a tapeworm for 4 months and did not think that to be the cause of her trouble. Her husband had had a tapeworm three years previously. Physical examination was negative. Erythrocyte and leucocyte counts were normal, while a differential count showed 8 per cent eosinophiles. Diagnosis was made on typical segments. On account of the seriousness of infection with this species, attempts were made to have her come into the hospital for treatment. This she refused and has not returned to the dispensary for treatment. No evidence concerning the source of infection was obtained.

It is perhaps worth while here to mention that the diagnosis between *T. saginata* and *T. solium* can only be made by examination of somites under the microscope considering those segments in which the uterus has less than 14 lateral branches as *T. solium*, while those over 14 as *T. saginata*. The armed head of *T. solium* is readily distinguished from the unarmed head of *T. saginata* and the double grooved head of *Bothriocephalus latus*.

Conclusion. Infection with *Bothriocephalus latus* from fish in the United States probably occurs, but is at present very rare. *Taenia saginata* is the commonest tapeworm found in the region of Chicago.

4. Osler's Modern Medicine, Vol. 1.

5. Patient of Dr. B. M. Linnell.



## Auto Sparks and Kicks

### ANTI-FREEZING MIXTURES.

Alcohol, glycerine and calcium chloride are the three substances that are most generally used for anti-freezing mixtures, but this year glycerine is almost too expensive to be considered with the price \$6.70 per gallon wholesale. (Nov. 16, 1916.) There are many other liquids that have a low enough freezing point, but are objectionable because they evaporate too quickly, do not carry away the heat rapidly enough, corrode the parts of the cooling system, leave a deposit in the radiator, do not flow freely or are too expensive.

A solution of alcohol in water most nearly fills the requirements of a perfect anti-freezing mixture. Either wood or denatured alcohol may be used.

The advantages of alcohol are that it is very easily handled, and has no corrosive action on the cooling system.

#### ETHYL OR GRAIN ALCOHOL (DENATURED).

This is probably the most satisfactory solution. It is not quite so volatile as wood alcohol, that is, it does not evaporate so easily or quickly, hence it does not have to be replaced as often. On the other hand, for the same percentage solution, it does not lower the freezing point as much as wood alcohol. On the whole, however, if the freezing point is not to be so low, it is preferable to wood alcohol.

#### METHYL OR WOOD ALCOHOL.

It has a low freezing point, but evaporates rather easily. Wood alcohol produces a lower temperature, for the quantity added to the water, than any of the substances, except calcium chloride. Great care should be taken, however, to test the strength of the solution, as wood alcohol has a low boiling point and evaporates rapidly. The sense of smell should not be relied on, as even a very weak solution will, especially when warm, give off a very strong odor. If alcohol solutions are used, either wood or denatured, a hydrometer should be used daily during cold weather to test the strength. A percentage table with specific gravities usually accompanies the hydrometer.

The number of parts of wood or denatured alcohol to give a certain freezing mixture may be obtained from the following tables:

#### WOOD ALCOHOL SOLUTION.

Pct. of Alcohol	Pct. of Water	Freezes at
10	90	18 above zero
20	80	5 above zero
30	70	10 below zero
40	60	23 below zero
50	50	35 below zero
60	40	50 below zero

#### DENATURED ALCOHOL SOLUTIONS.

Pct. of Alcohol	Pct. of Water	Freezes at
10	90	25 above zero
20	80	15 above zero
30	70	8 above zero
40	60	zero
50	50	10 below zero
60	40	18 below zero



### Help him make a Christmas of HEALTH—

**A**FTER all, Christmas is only a success when you give to make *others* happier. And what better gift can you give than health to sufferers and protection to those about them!

Once a year the Red Cross Seal makes its appeal to you for support in its winning fight against tuberculosis.

With the money paid for **RED CROSS SEALS**, both children and grown-ups are taught how to escape and conquer Tuberculosis, nurses are sent among the poor, dispensaries and hospitals are secured.

Here is your chance to do a real good —and right in your own state. For the Seals support the health work in the state where they are purchased. Buy liberally to bring new life to those who have less of life's pleasures than you.

**Buy  
Red Cross  
Seals of  
your local  
agent.**



### THE UNITED STATES PUBLIC HEALTH SERVICE ASKS—DO YOU

Maintain a polluted well and then complain about the undertaker's bill?

Think screening is too expensive and then blame your malaria on the climate?

Insist on sanitary cigar factories and then use a public cigar cutter?

## Society Proceedings

### COOK COUNTY MEDICAL SOCIETY, CHICAGO.

*Regular Meeting, November 8, 1916.*

#### MEDICAL PREPAREDNESS NIGHT.

Report of the Committee of American Physicians for Medical Preparedness, Frank F. Simpson, Secretary, Pittsburgh, Pennsylvania.

Franklin H. Martin, medical representative on council for national defense, appointed by President Wilson.

Frank Billings and A. J. Ochsner, representing the Federal Committee of American Physicians.

#### STATE COMMITTEE FOR ILLINOIS.

L. L. McArthur, chairman; Wm. L. Noble, president Illinois State Medical Society; W. H. Gilmore, secretary Illinois State Medical Society; E. Wyllys Andrews, F. A. Besley, Chas. E. Kahlke, Dean Lewis, A. Augustus O'Neill, J. F. Percy, Galesburg, Ill.; Col. Wm. Stephenson, U. S. army, chief surgeon, Central Division; Lieut-Col. Jacob Frank, surgeon-general Illinois National Guard.

*Regular Meeting, November 15, 1916.*

Blood Transfusion, Modern Developments in Technique and Indications. Motion Pictures of the Citrate Method of Blood Transfusion—Richard Lewisohn, New York City, N. Y.

Discussion—Nelson M. Percy, Victor Lespinasse, Allen B. Kanavel, and Henry W. Abelman.

*Regular Meeting, November 22, 1916.*

"Experiences in Bone Surgery of the Present War in France." Just returned from Base Hospital in France, with moving pictures of their work.—Fred H. Albee, New York City, N. Y.

Discussion—A. J. Oschner, Dean Lewis, E. Wyllys Andrews, Kellogg Speed, recently in charge of a Base hospital in France; H. M. Richter, recently in charge of a Base hospital in Germany, and Charles S. Williamson.

*Regular Meeting, November 29, 1916.*

The basis of the carpenter lecture which was to have been delivered by the late John B. Murphy to the New York Academy of Medicine, October 19.

A clinical and experimental study of the metastatic arthritides; a review of eight hundred and fifty-nine cases from the clinic and animal experimentation of the late John B. Murphy. (Lantern illustration.)—Phillip H. Kreuscher.

Discussion—Charles L. Mix, Richard J. Tivnen, Wm. A. Evans, E. Wyllys Andrews, Franklin H. Martin, J. E. Keefe, Victor L. Schrager, and Wm. E. Quine.

### CHICAGO OPHTHALMOLOGICAL SOCIETY.

A regular meeting was held April 17, 1916.

The president, Dr. William E. Gamble, in the chair.

### RESULTS OF SALVARSAN TREATMENT IN OCULAR CONDITIONS.

Dr. D. C. Orcutt: Is salvarsan of use in other than specific cases and if so, what kind? Are there cases where its use is contraindicated?

Since September, 1915, it has not been possible to procure salvarsan and neosalvarsan, excepting a few doses of the American product.

The essayist reported cases from the records at the Illinois Charitable Eye and Ear Infirmary.

In five cases of optic atrophy treated by salvarsan and neosalvarsan the Wassermann was positive in 2; negative in 3. The duration in all the cases was under two years; the average time of treatment was six months. As to results, there was marked improvement in 2 cases; slight in 1 and no improvement in 2. The negative cases showed the most improvement.

In a case of nerve paralysis of eight months' duration with marked ptosis of right lid and diplopia with the Wassermann negative and vision 20-50 in the right eye, left normal, with treatment continuing seven months, four injections of neosalvarsan and two of salvarsan, the patient was absolutely cured, with normal vision in each eye.

In two cases of sympathetic ophthalmia the results from the use of salvarsan were very flattering.

The essayist reported two cases of interstitial keratitis, one of which although a very bad case, cleared up completely in a much shorter period than has been expected under the usual treatment.

It is an accepted fact that while interstitial keratitis is to some degree a self-limited disease, yet with the aid of salvarsan its course is hastened at least one-half and the symptoms ameliorated; this statement is based upon the other cases reported and also the experiences of others.

The essayist combined cases of neuro-retinitis and vitreous opacities because he is satisfied that the latter never occurs as a distinct disease in itself, but is always associated with some other diseased condition.



The author also reported a case of a woman where the trouble began last July, with no discoverable etiology; the Wassermann negative. Patient entered hospital January 31, with vision R. 20-100; left 20-80, vitreous very cloudy, fundus not visible. Patient given atropin and dionin t. i. d., neuro-retinitis diagnosed on February 14. On February 24, when vision was R. 20-80 and L. 20-70, six grams American salvarsan given, with vision steadily improving until March 15, when six grams more of American salvarsan was given, and by March 17, the vision was normal in each eye.

*Summary:* In five cases of optic atrophy three were improved, and no result in two.

In two cases of neuro-retinitis there was absolute improvement. In two cases of interstitial keratitis improvement occurred in each. In one case of paralysis of the third nerve there was absolute improvement. In two cases of sympathetic ophthalmia, which would have been practically hopeless without salvarsan, improvement was secured in each.

#### DISCUSSION.

Dr. George F. Suker said that in interstitial keratitis it makes no difference whether antispecific treatment is employed or not, as the patients will improve under general treatment. Too much mercury is detrimental in interstitial keratitis. Interstitial keratitis is not in and of itself in every instance a direct expression of syphilis in the cornea, but often the result of secondary syphilitic toxic influence. In secondary interstitial keratitis—that is, one due to the syphilitic toxin and not the spirochete—salvarsan has been of value where the spirochete pallida occurs in the corneal tissue proper. When there is a local reaction in the circum-corneal injection following the initial dose of salvarsan, the spirochete pallida are very frequently found in the corneal stroma. Therefore, salvarsan acts somewhat after the manner of tuberculin and in such cases a marked improvement follows its use. As to the effect of salvarsan in various optic atrophies, it all depends whether they are of the direct specific type or on a specific base only. With syphilitic optic atrophy the question often arises whether the manifestations are those of general paralysis or senile dementia. In general paralysis there is frequently an intermitting improvement for the time being in the condition, both general and in the optic atrophy. It is incumbent upon us to differentiate whether we are dealing with simple/senile or parietic dementia or with a higher form of tabes or with a lower type or with a progressive multiple sclerosis as distinguished from disseminated sclerosis. A negative Wassermann does not mean anything in these ocular conditions. In these indefinite syphilitic cases a spinal puncture and a careful examination of the fluid must be made to exclude syphilis as the direct cause, except where the use of luetin reaction is employed. The luetin test for the presence of tertiary syphilis is as dependable as any test we have at the present time. The consensus of opinion at the present time, in reference to the therapeutic value of salvarsan, is that it is no better than mercury and when used must be followed by mercury.

#### CONSIDERATION OF THE CHIASM.

Before the commencement of his talk on "Consideration of the Chiasm," Dr. George F. Suker presented for inspection a specimen of an absolutely fresh brain, the various interesting features of the chiasm being pointed out.

A dried specimen was exhibited showing the chiasm with its meningeal coverings removed to the anterior-posterior bifurcation, showing the chiasm resting on the pituitary body, which is posterior to the chiasm proper, thus allowing considerable freedom for displacement. The internal carotids are in close juxtaposition to it and may influence the chiasm, as in cases of general arteriosclerosis they are apt to give rise to binasal hemianopsia. In order to produce binasal hemianopsia two lesions are necessary, one on either side of the angle of the chiasm. If the anterior cerebral artery should become sclerosed more on one side than on the other, there will be one-sided hemianopsia due to pressure on the same side as hemianopsia, which, however, is rather unusual. Care should be taken to determine whether the condition is due to a local or constitutional lesion. The pituitary body is set relatively deep and covered over and above by dura mater and pia mater and arachnoid; the chiasm lies on top of these meningeal coverings almost anterior to the pituitary and is supported in the sphenoidal groove as if it were in a swinging basket. Thus considerable movement is afforded to the chiasm. The wisdom of Nature is thus shown in the location and freedom of movement of the chiasm. The infundibulum of the pituitary body and the recesses of the third ventricle are the principal portions which give rise to chiasmal involvement.

Dr. Suker then presented and explained seventeen different types of fields which can arise from the lesion being in the chiasm or its immediate vicinity.

1. Bilateral nasal hemianopsia.
2. Temporal hemianopsia with upper outer temporal hemianopsia in the other eye of the quadrant type.
3. Bitemporal quadrant hemianopsia.
4. Blindness in one eye with upper temporal quadrant hemianopsia in the other.
5. Central scotoma—unilateral or bilateral.
6. Right and left hemianopsia superior and inferior.
7. Unilateral temporal quadrant hemianopsia, right and left.
8. Unilateral nasal quadrant hemianopsia, right and left.
9. Complete bitemporal hemianopsia.
10. Bitemporal quadrant hemianopsia superior and inferior.
11. Central scotoma, accompanied by a homonymous hemianopic blind area on the temporal side of other eye.
12. Complete amaurosis in one eye with temporal hemianopsia in the other.
13. Central bitemporal hemianopic scotomata.
14. Peripheral bitemporal hemianopsia with central temporal hemianopic scotoma.
15. Unilateral central temporal hemianopic scotoma.
16. Bitemporal color hemianopsia.
17. Bitemporal hemianopsia with central scotomata.

#### THE ANATOMY AND PATHOLOGY OF THE CHIASM.

Dr. Francis Lane said that the chiasm may be regarded as the prolongation of the brain. The structure of the brain cannot be studied apart from its physiology and pathology. It is impossible to study the cerebral portion of the visual apparatus apart from the brain. This is, therefore, true of the chiasm. Neurology is not a part of any other science, but

is a science by itself, and to which all other sciences pertain.

(The speaker then read a considerable portion of his address from manuscript, after which he proceeded further without manuscript.)

Dr. Lane said that in considering pathology it was not his purpose to account for the clinical symptoms which arise from certain tissue changes. It is almost impossible to understand pathological changes in the chiasm without considering the retina and its optic nerves, because many of the changes are ascending and are the result of changes in the bulb and in the orbit. Retro-bulbar neuritis does not present any ophthalmoscopic picture at the time, but will show secondary degenerative changes. Any inflammatory condition of the optic nerve in any portion of the fibers, medullary sheath and the neuroglia does not show signs of active inflammation. The changes in these structures are secondary. In the optic nerve we have interstitial neuritis, which is impossible in the chiasm, because of the absence of connective tissue. Leucocyte and inflammatory products are thrown out in interstitial keratitis, and when organized will cause pressure on the axons.

In ascending atrophy the elements first involved are the ganglionic cells. The first evidence of atrophic change is the degeneration of the fat globules. The nucleus of the cell takes the stain less readily and degenerates into a vacuole surrounded by neuroglial tissue. Coagulation necrosis is the causes of opacities in the retina, in embolism of the central artery, in cases of family amaurotic idiocy, and in quinin amblyopia, because the process is supposed to begin in the ganglionic cell, and the ganglionic cells become less distributed the farther we get away from the optic nerve. We do not find opacities in the central region because of the absence of the ganglionic cells. In cases of opaque nerve fibers, if the degenerative condition takes place in the ganglionic cells the medullary fibers of the nerve will disappear and we find the red reflex where the opacity was present before. In tabes and paralytic dementia the initial lesion is thought to take place first in the ganglionic cells, but it is an ascending atrophy. Cases examined anatomically show that the ganglionic cells are degenerative.

During degenerative changes the nerve fibers after preliminary changes become hyalin and finally disappear. According to the Wallerian law that if the peripheral nerve is severed it does not degenerate centrally; it is different in the case of the optic nerve, which is inter-central and not a peripheral nerve. If the optic nerve is divided descending as well as ascending, degeneration occurs.

Pressure may be caused by new growths of various kinds, organized exudate, skull deformities, hemorrhages in the sheath, callus after fracture and tumors of various kinds.

In disseminated sclerosis the process is entirely different from that in tabes dorsalis. The one is an atrophic condition, while the other shows proliferation of connective tissue, as in disseminated sclerosis.

So it is a secondary atrophy of the optic nerve which occurs in disseminated sclerosis.

#### DISCUSSION.

Dr. George F. Suker said he wished to ask Dr. Lane whether the cones in the retina have two distinct fibers running to the chiasm and decussating there, or whether each cone has but one fiber and this fiber decussating in the chiasm.

Dr. Lane, in closing the discussion, said that Collins and Uthoff made the statement that the primary lesion is found in the ganglionic cells of the retina.

In answer to Dr. Suker's question he could find nothing on that point as to the decussation of the fibers which would come from the rods, whether it is from one or the other, from one or two (indicating on chart).

The cut and stained specimens alone are not sufficient to solve these problems. Anatomy cannot be studied apart from physiology and pathology. The cases must also be studied clinically.

Dr. F. D. Vreeland reported the case of a patient whose left eye was enucleated on account of injury twenty-five years ago. Three weeks following the enucleation the right eye became involved and irido-cyclitis accompanied by occlusion of the pupil occurred. The eye was treated on that occasion and became quiet. It was decided to do nothing with the eye, and the patient thought he would not be able to see again, and so he went to Jacksonville and graduated at the Institution for the Blind there. The speaker saw the case last December. It was a case of small undeveloped eye, the anterior chamber obliterated and the cornea very small. The deposits on the cornea extended above the pupillary area. Perception and projection were intact and it was thought vision might be gained by an iridotomy, which was done. The patient could see before the operation a hand four inches from his eye. After the operation, which was done by means of a thin cataract knife, he could count fingers at fourteen inches. He was discharged and later had a return of the inflammation and now can count fingers at ten inches. The pupil being occluded, he has double vision. The pulling out of the iris seemed to pull the iris a little beyond the exudate, so that this double vision is probably through the periphery between the exudate and the iris. What is there back of the iris? Nothing can be seen. The speaker said he would like to have suggestions as to what to do in a case of this kind. In these conditions the lens is usually small or rudimentary. The corneal section would not permit the removal of the lens if of normal size. The patient has been on salicylates and iodids and other preparations.

PAUL GUILFORD,  
Secretary.

#### DEKALB COUNTY

The DeKalb County Medical Society met at DeKalb October 27, 1916, Vice-president Dr. M. C. Munn presiding.

Dr. Paul E. N. Greeley of Waterman read a paper on "Modern Surgical Patients," with special reference to post-operative cases. Discussed by Drs. C. B. and O. J. Brown.

As the meeting was the last for the year 1916, the following officers were elected: Dr. Paul C. N. Greeley of Waterman, president; Dr. M. C. Munn of Sycamore, re-elected vice-president; Dr. J. B. Hagey of DeKalb, secretary and treasurer (re-elected); Dr. C. B. Brown, re-elected to board of censors for three years; Drs. C. B. Brown and J. A. Badgley were re-elected as delegates to the state meetings for the year.

J. B. HAGEY, Secretary.



## HENDERSON COUNTY

held its annual meeting in the Masonic hall, Stronghurst, Tuesday, November 14, 1916, at 1 p. m. Members and visitors were present. Dr. C. P. Frantz of Berlington, Iowa, read an excellent paper on "The Modern Tonsil Operation; Indications, Technique and Dangers." The discussion was opened by Dr. J. F. Percy of Galesburg, followed by Drs. Winters, Bower and others.

Dr. G. S. Bower gave a paper on "The Differentiation Between Neurasthenia and Hysteria." This was a fine presentation of these peculiar diseases. It was interestingly discussed by several.

Dr. E. C. Franing, of Galesburg, gave an address on "The Prevention of Cancer." The Doctor made some lasting impressions upon the memories of his hearers. He suggested that the medical profession should not be so pessimistic in their views in regard to the treatment and curability of cancer, and should educate the laity to believe that, although cancer is on the increase, it is curable in the early stages. This subject was well discussed by Dr. Percy, who has had very wide experience in the treatment of the several forms of this disease and the discussion was participated in by several others.

Dr. Huckins was elected a member of the society.

The following officers were elected: President, W. J. Emerson; vice-president, E. E. Bond; secretary-treasurer, J. P. Riggs; censor for three years, A. E. Lauver.

I. F. HARTER, Secretary.

## MADISON COUNTY

### *October Meeting.*

This was held in the Fireman's Hall in Madison on October 6, 1916. The day was just simply perfect and as a result we had a large attendance from all parts of the county. Twenty-three members and four visitors.

The subject for discussion was "Infantile Paralysis," and was ably presented by Dr. E. W. Saunders, the eminent pediatricist of St. Louis. Dr. Saunders has made the etiology of this disease the subject of study and research for many years and has come to the conclusion that poliomyelitis is caused by the ingestion of the larvæ of the green fly. He said that he was fully convinced that the disease is not propagated by contact and hence stated that isolation and quarantine were absolutely unnecessary. He brought out some very logical and convincing arguments sustaining his position and held the undivided attention of the audience for more than an hour as he unfolded the results of his very extensive experiments. His most emphatic statement was that he would stake his reputation upon the truth of his conclusions and said, "Exterminate the green fly and you will not have another case of poliomyelitis."

The discussion was lively and enthusiastic and all who were present felt that some very valuable information had been gained. The speaker was given a hearty vote of thanks and will be a welcome guest whenever he can make arrangements to visit us again.

The business session of the October meeting was called to order by President Dr. R. D. Luster on the afternoon of October 6, 1916, at Madison. Committee on fee-bill presented proofs and on motion of Dr. Pfeiffenberger, the secretary, was instructed to send a copy of this proof to each member of the society, together with a letter inviting each member to send suggestions to the committee so that we can intelligently act on the report of the committee at our next meeting.

The committee on resolutions on the death of Dr. W. A. Haskell, of Alton, made report and presented the following resolution which was unanimously adopted:

WHEREAS, The Omnipotent Supreme Being has seen fit to remove from this life William A. Haskell of Alton, Illinois, be it

*Resolved*, That in the death of Doctor W. A. Haskell the Madison County Medical Society has lost a good and true friend; the medical profession of this county a member who added much to its lustre and history; and the community in which he lived, an able and public-spirited citizen; and, be it further

*Resolved*, That a copy of this resolution be sent to the family of Doctor W. A. Haskell, and that a copy be spread upon the records of the society.

Respectfully submitted,

J. BERNARD HASTINGS,  
MATHER PFEIFFENBERGER,  
E. A. COOK,

Committee.

The committee on sending Mrs. M. A. Herrick to the Conference on Tuberculosis made a report that the nurse was sent to Louisville, Ky., to represent this society at the conference, which action on motion of Dr. Cook was endorsed. The society accepted the resignation of Dr. Tulley as a member of the board of censors and Dr. L. Schreifels was elected to fill the vacancy.

Adjournment to meet the first Friday in November at Edwardsville.

Summary of work for the month—Schools examined, 19; pupils examined, 601; found defective, 178; number consulting physicians and receiving treatment, 71. Number of calls in Edwardsville, 196; adults advised, 20; miscellaneous calls, 30; talks given, 47; assisted physicians in 14 tonsil operations (charity).

## SOUTHERN ILLINOIS MEDICAL ASSOCIATION

At the meeting of the Southern Illinois Medical Association, held at Benton, November 2 and 3, the following resolution was adopted:

*Resolved*, That the Southern Illinois Medical Association, in session November 2 and 3, 1916, at Benton, Illinois, hereby endorses the efforts of the secretary of the State Board of Health to secure such changes that may be necessary in our medical laws at the next session of the Illinois legislature, to enable the state board to arrange for full and complete reciprocal relation with other states for the older practitioner.

*Resolved further*, That a copy of this resolution be sent to Dr. C. St. Clair Drake, secretary, State Board of Health, and to the ILLINOIS MEDICAL JOURNAL.

The following officers were elected for the ensuing year: President, Chas. O. Moltz, Murphysboro; first vice-president, W. H. Alvis, Benton; second vice-president, Chas. E. Eisele, E. St. Louis; secretary-treasurer, A. B. Capel, Shawneetown; assistant secretary, Robt. G. Bond, Harrisburg.

The next meeting of the Association will be held at Murphysboro, November 1 and 2, 1917.

### Personals

Dr. W. S. Hartford, of Urbana, has removed to Los Angeles.

Dr. A. J. Peters removed from Lynn Center to Atkinson last month.

Dr. A. Grassau removed from Hillsdale, Ill., to Princeton, Iowa, last month.

Dr. H. R. Wormley removed from Hartford, Conn., to Rockford last month.

Dr. F. J. Maha, of Dundee, had a severe infection of the jaw, which was operated on both in Elgin and Chicago.

Dr. Ida M. Laird Barroll, Winnetka, has been elected president of the Cornell University Women's Club of Chicago.

Dr. J. A. Kleinsmid, of Aledo, was shot through the body by an unknown assailant while returning home on the night of November 10.

The bust of Dr. John B. Murphy made by the Irish sculptor, M. Thomas Murphy, is said to be a striking likeness of the doctor by friends who have seen it.

Dr. J. J. Hanmore, of Urbana, who was severely injured in a collision of his auto with a telephone pole several weeks ago, is reported to be greatly improved.

Dr. J. W. Twitchell, of Belleville, last month fractured his right arm for the third time in two years. The last time it was an auto fracture. That "auto" be enough.

Dr. Norman Bridge's reputation as an oil pleurocrat forced him to retire to the Blackstone during his recent visit in Chicago to avoid importunities for charity.

A farewell dinner was given by physicians of Peoria and vicinity to Dr. Elbert W. Oliver, October 20. Dr. Oliver left October 23 for his new home in Sheridan, Colo.

### News Notes

—A fund of \$25,000 is said to have been raised to build a hospital in Pekin in the spring.

—Your Christmas mail will carry Red Cross stamps and a blessing for someone whether your present pleases or not.

—The McLean County Medical Society met November 14 at Bloomington. Dr. Wilfred H. Gardner read a paper on "The Accessory Sinuses of the Nose."

—The annual meeting of the Western Roentgen Society will be held in Chicago on December 15 and 16. Headquarters will be at the Hotel Sherman. The indications point to a good meeting.

—Fred W. Gage, an osteopath in Chicago, failed in his attempt to mandamus the health officials to register him as a "legally qualified physician," before Judge Walker, November 12.

—The Illinois Charitable Eye and Ear Infirmary needs a new building badly. Superintendent O'Connor thinks \$500,000 could be invested to good advantage and has plans ready whenever the cash is forthcoming.

—The Illinois Supreme Court, on October 25, after considering the case of Wendell against the city of Peoria, rendered a decision upholding the right of the school board to bar from school children who have not been vaccinated.

—A new cottage for male and one for female tuberculosis patients is being constructed at the Peoria State Hospital, Bartonville. The cottages are of frame and stucco construction. A new cottage for paroled men is nearly ready for occupancy.

—The Chicago Physicians Club discussed "The Military Doctor at Home and Abroad" at the dinner in Hotel La Salle, November 16. Dr.



John Witherspoon acted as chairman, and Drs. H. M. Richter, Robert J. Gay and John Ridlon related their experiences as army medical officers

—At the seventieth annual meeting of the Aesculapian Society of the Wabash Valley, held in Paris, October 26, the following officers were elected: President, Dr. J. W. Alexander, Oakland; vice-president, Dr. Thomas O. Freeman, Mattoon, and secretary-treasurer, Dr. Herbert N. Rafferty, Robinson.

—The Illinois State Hospital Medical Association held its annual meeting at the Peoria State Hospital, October 26, under the presidency of Dr. Charles Burr Caldwell, assistant superintendent of the Peoria institution. The Chicago State Hospital was selected as the place for the next meeting, to be held in January, 1917.

—The Chicago Gynecological Society announces that it will award a prize of \$100 to the author of the best paper presented to the society during each year on any gynecologic or obstetric subject. Those who desire to enter this competition should apply to Dr. N. Sproat Heaney, secretary of the society, 104 South Michigan avenue.

—Mr. Louis R. Curtis, for over ten years superintendent and secretary of St. Luke's Hospital, has resigned to become president of the Frank S. Betz Company. Mr. Curtis during late years has been prominent as a consulting engineer among hospitals and has introduced many innovations in hospital construction and organization.

—The meeting of the Robert Koch Society, November 23, was held at the Cook County Institute, Oak Forest. Luncheon was served at the Tuberculosis Hospital and papers were read in the afternoon, after which the admission of a number of patients was witnessed. An inspection was then made of the hospital, including the kitchen and dining room.

—At the election, November 7, eight counties voted to tax themselves, and to erect and maintain a woman's sanatorium, and this movement will be continued in every county of the state. The counties that voted to levy taxes up to 3 mills for \$100 valuation were: La Salle, Adams, Livingston, Morgan, Ogle, Champaign, Kane and McLean. The proposition was defeated in Rock Island and Green counties.

—At the meeting of the Cook County board with representatives of thirty-five social service organizations, President Reinberg emphasized the need of a state institution for crippled children, where they may receive orthopedic treatment and the advantage of proper care and education. It was stated that the capacity of the three institutions at present in the state is limited to 200 children and that there are 3,000 children in need of orthopedic care.

—The National Board of Medical Examiners held its first examination in Washington, October 16-21. The five successful candidates were: T. Arthur Johnson, of DeKalb, Ill., M. D., Rush, 1911; H. T. Kristjanson, of Wauwatosa, Wis., M. D., Rush, 1907; H. S. Newcomer, of Madison, Wis., M. D., Johns Hopkins, 1915; O. C. Snyder, of New York City, M. D., University of Michigan, 1915; W. S. Southard, of Washington, D. C., M. D., Johns Hopkins, 1916.

—A memorial tablet to Dr. Christian Fenger, presented to the Cook County Hospital by the Danes of Chicago, was unveiled in the presence of a large concourse of Danes and physicians, November 3. W. A. Bauer, president of the Dr. Fenger Memorial Fund, gave the presentation address. Acceptances were made by the president of the Board of Commissioners of Cook County and by Governor Dunne. Addresses were given also by Drs. Joseph L. Miller and A. Augustus O'Neill.

—The newly organized Women's Board of the Chicago Polyclinic and Henrotin Memorial Hospital initiated its first aid lecture series this year with a lecture by Dr. Edwin W. Ryerson on "Infantile Paralysis," November 14. November 21, Dr. Robert C. Hammill spoke on "Nervous and Mental Disorders." On November 28, Dr. Samuel G. Walker delivered a lecture at the residence of Mrs. Robert H. McCormick, Jr., 25 East Erie street, on "Medical Subjects of General Interest," and the final lecture of the series was delivered at the residence of Mrs. Joseph M. Patterson, 3 Banks street, December 5, by Dr. Malcolm L. Harris on "What Modern Surgery has Accomplished."

—An experiment in beating the high cost of living is of especial interest at this time on account of the great increase in the cost of so

many elements of the average diet. It is natural that the "diet squad" of Dr. Robertson, commissioner of health, Chicago, should excite wide comment. The report at the end of the first week indicated that the six men and six women had gained an average of 2.23 pounds on a diet that cost 33 2/3 cents per day. It was expected that the average cost for the second week would be still less. From the daily menus published in the papers it appears that the diet was varied and the required proteids secured with a small amount of meat. Presumably the supplies were purchased at retail. The squad are all employed in the office of the Health Department. Within this limitation the experiment is of interest. At the same rate the food for a family of five for 30 days would cost \$50.50. This might not appeal to a laborer, either from the standpoint of cost or "calories," though it should be sufficient for the younger children.

### Marriages

JOSEPH R. MITCHELL, M. D., to Miss Rhoda A. Hess, both of Chicago, October 4.

HARRY LEVI DAY, M. D., to Miss Nola M. Jackson, both of Bluffs, Ill., October 25.

KARL F. M. SANDBERG, M. D., to Mrs. Emilia P. Peterson, both of Chicago, November 4.

ISADORE EDWARD BISHKOW, M. D., Chicago, to Miss Cecilia Harris of Brooklyn, October 31.

BARCLAY WILKINSON, M. D., to Mrs. Laura Harvey Moore, both of Chicago, about October 30.

ELMER LAWTON KENYON, M. D., to Miss Friede Augusta Heyde, both of Chicago, November 9.

CARL FERDINAND BOOKWALTER, M. D., to Miss Emma Ellis Boyd, at Crown Point, Ind., November 3.

CHARLES ARTHUR SIMA, M. D., Chicago, to Miss Alice Kathryn Burch of Kansas City, Mo., October 21.

JOHN ALBERT VAN KIRK, M. D., Watseka, Ill., to Miss Maude Florence Steele of Kentland, Ind., October 28.

HOWARD BRADFORD BOONE, M. D., Chandler-ville, Ill., to Miss Marguerite Potter of Decatur, Ill., October 25.

CLAYTON WILSON KLONTZ, M. D., to Miss Lula Marion Swanson, both of Chicago, at Crown Point, Ind., October 19.

### Deaths

MARIE F. ROSE, M. D., Harvey, Ill.; Hahnemann Medical College, Chicago, 1896; died at her home October 11.

WILLIAM W. McMANN, Gardner, Ill. (license, Illinois, years of practice, 1878); aged 78; a veteran of the Civil war; died at his home October 24.

PETER B. SPIRON, M. D., Collinsville, Ill.; University of Bucharest, Roumania, 1890; National Medical University, Chicago, 1898; aged 50; was found dead in his office, November 4.

JOHN SALTENBERGER, M. D., Millstadt, Ill.; Washington University, St. Louis, 1864; aged 84; a veteran of the Civil war; died at his home near Millstadt, October 20, from heart disease.

GEORGE EDWARD LUSTER, M. D., Galesburg, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1874; aged 63; was found dead from cerebral hemorrhage in his office in Galesburg, October 19.

ANDREW JACKSON SHORE, Sailor Springs, Ill. (license Illinois, years of practice, 1878); aged 81; a veteran of the Civil war; in active practice for thirty-five years; died at his home November 20, of pneumonia.

WILLIAM HENRY CONIBEAR, M. D., Lakeland, Fla.; Rush Medical College, 1876; aged 72; a member of the Illinois State Medical Society and for many years a practitioner of Morton, Ill.; died at his home October 25, from carcinoma of the liver.

HENRY JONATHAN DEARBORN, M. D., Mount Sterling, Ill.; Rush Medical College, 1888; aged 50; formerly a member of the Illinois State Medical Society; coroner of Brown county for two terms; died at his home October 29, from cerebral hemorrhage.

JOHN PRESSLEY BROWN, M. D., Benton, Ill.; Missouri Medical College, St. Louis, 1878; aged 73; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society; died at his home August 11, from cirrhosis of the liver.

JOHN B. ARMSTRONG, M. D., Chicago; New Orleans School of Medicine, 1869; aged 69; formerly a Fellow of the American Medical Association; a member of the pension board of Chicago for twenty-one years; died at his home November 8, from heart disease.

BYRON SINCLAIR GAILEY, M. D., Jacksonville, Ill.; University of Michigan, Ann Arbor, 1895; aged 43; a Fellow of the American Medical Association; a specialist on diseases of the eye, ear, nose and throat, and for sixteen years oculist and aurist to the Illinois State School for the Deaf; died at his home November 9.

EDWARD O. PLUMBE, M. D., Chicago; Eclectic Medical College of the City of New York, 1868; New Or-



leans School of Medicine, 1869; aged 78; a veteran of the Civil war; formerly surgeon of the Chicago, Milwaukee & St. Paul Railway at Rock Valley, Iowa; acting assistant surgeon U. S. army, and U. S. P. H. and M. H. Service; died at his home October 22.

### NEW AND NON-OFFICIAL REMEDIES.

During November the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

H. K. Mulford Company: Mercurialized Serum-Mulford, No. 5-A and 5-B; Mercurialized Serum-Mulford, No. 6-A and 6-B.

SWANMYERS Company: Swan's *Bacillus Bulgaricus*.

Swan's *Bacillus Bulgaricus*.—A pure culture in tubes of the *Bacillus Bulgaricus*. It is designed for internal administration and for direct application to body cavities, abscesses and wounds. The culture is supplied in boxes of twelve tubes. The tubes must be kept in a cool place and must not be used after the date stamped on the package. Swan-Myers Company, Indianapolis, Ind. (*Jour. A. M. A.*, Nov. 25, 1916, p. 1601).

## Book Notices

**A MANUAL OF CHEMISTRY.** A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-book specially adapted for Students of Medicine, Pharmacy and Dentistry. By W. Simon, Ph. D., M. D., Late Professor of Chemistry in the College of Physicians and Surgeons, Baltimore, and in the Baltimore College of Dental Surgery; and Daniel Base, Ph.D., Professor of Chemistry in the Maryland College of Pharmacy, Department of the University of Maryland. Eleventh edition, thoroughly revised. Octavo, 648 pages, with 55 illustrations, one colored spectra plate, and 6 colored plates, representing 48 chemical reactions. Cloth, \$3.50 net. Lea & Febiger, publishers, Philadelphia and New York, 1916.

The popularity of this work on chemistry is shown by a demand for an eleventh edition. As is well known, the work is designed as a text-book for students of medicine, dentistry and pharmacy.

This new edition has changed somewhat by the omission of two sections, namely, those on light and electricity, and by the consolidation of several other sections. This edition incorporates the additions to and changes in the new U. S. Pharmacopœia, and is up-to-date in all respects.

This edition, as were the former ones, will be popular with all medical, dental and pharmacy students, or at least as popular as it is possible for a chemistry to be. With this work the student has the advantage of a clear, concise text that will add greatly to the interest of the study of it. We recommend it to all students of scientific studies.

**BLOOD PRESSURE.** From the Clinical Standpoint by Francis Ashley Faight, M. D. Formerly Director of the Laboratory of Clinical Medicine at the Medico-Chirurgical College, Philadelphia. Second edition, thoroughly revised. Octavo of 478 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1916. Price, \$3.25 net.

This second edition by Faight, following the first in so short a time, indicates the interest in the subject of blood pressure. The author has considered blood pressure apparently from all standpoints. He has described various instruments and gone into detail concerning their use and the manner of reading them. He has taken up the question of blood pressure in various diseases, and has pointed out the significance of the findings. The author has relied mainly on his own knowledge of blood pressure, but, at the same time, he has given the opinions of other writers on this subject.

As no physician's armamentarium is complete without a blood-pressure instrument, neither is his library complete without a text-book on the subject. This one by Dr. Faight is quite complete, and will be of much value to the doctor.

**THE CLINICS OF JOHN B. MURPHY, M. D.,** at Mercy Hospital, Chicago. Edited by P. G. Skillern, Jr., M. D. of Philadelphia, October, 1916. Published Bi-Monthly by W. B. Saunders Company, Philadelphia and London. Volume 5, No. 5.

This volume of clinics, which we believe is about the last (being succeeded by the Surgical Clinics of Chicago), is reviewed with a feeling of regret and with a hope that its successor will equal it. The subjects presented are all instructive and cover about thirty-two various topics. Among them are noted: a talk on varicose veins and varicose leg ulcers; carcinoma of mucous membrane of cheek; osteomyelitis of malar bone; lipoma of shoulder; hernia, carcinoma of breast and of cæcum enlargement of prostate, all in the familiar style of the master surgeon who has gone.

**THE MEDICAL CLINICS OF CHICAGO.** Volume II, No. 2 (September, 1916), Octavo 196 pages, 22 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Price per year, paper, \$8.00; cloth, \$12.00.

This volume of medical clinics contains a diversity of interesting subjects, among which are, acute miliary tuberculosis, syphilis of the liver, feeding of a normal baby with artificial foods, an unusual case of multiple sclerosis, a beginning general paresis, carcinoma of head of pancreas, etiology and treatment of acne, diabetes in the young, chronic diarrhoea and several others as interesting. The value of these clinics is increasing with each issue.

**THE PRACTICAL MEDICINE SERIES.** Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of

Charles L. Mix, A. M., M. D., Professor of Physical Diagnosis in the Northwestern Medical School. Volume II, General Medicine, edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty, assisted by Burrell O. Raulston, A. B., M. D., Resident Pathologist, Presbyterian Hospital. Series, 1916. The Year Book Publishers, Chicago. Price, \$1.50. Price of the series of ten volumes, \$10.00.

This volume, a part of the series of ten issued each year, deals with the progress of general medicine during the preceding year, and as such is extremely valuable. These series of year books, intended primarily for the general practitioner, are arranged into several volumes, so that one may buy only those volumes in which he may be interested.

THE PHYSICIAN'S VISITING LIST FOR 1917. Sixty-sixth Year of Its Publication. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia. Sold by all Booksellers and Druggists. Issued in Weekly, Monthly and Perpetual Editions. Price, Monthly Edition, \$1.25.

This Visiting List is of the same appearance as its predecessor, and contains an excellent dose table and table of weights.

THE PRACTITIONER'S VISITING LIST FOR 1917. Four styles: weekly, monthly, perpetual, sixty-patient. Pocket size, substantially bound in leather with flap, pocket, etc., \$1.25 net. Lea & Febiger, publishers, Philadelphia and New York.

Lea & Febiger's new 1917 Visiting Lists are out and are issued in the same style as their predecessors. The usual text portion is revised to date, the most important part of which is a good dose table.

SYPHILIS. By Lloyd Thompson, Ph. B., M. D., Physician to the Syphilis Clinic, Government Free Bath House; Visiting Urologist to St. Joseph's Hospital; Consulting Pathologist to the Leo N. Levy Memorial Hospital, Hot Springs, Arkansas; First Lieutenant Medical Reserve Corps, United States Army; Member of the American Urological Association and the American Association of Immunologists. Octavo, 415 pages, with 77 engravings and 7 colored plates. Cloth, \$4.25 net. Lea & Febiger, publishers, Philadelphia and New York, 1916.

Not so many years ago syphilis was treated largely as a skin disease, and was thought to belong to that specialty. Later the Urologists claimed title, and since it has been treated more or less as a genito-urinary disease. At the present time we know that the disease really belongs in neither of these classes. It is a disease belonging to no specialty.

This new work treats the whole question of syphilis rather exhaustively. The author has studied where syphilis was abundant, and has had experience from which he has drawn largely in writing his book, but

he has also used the literature of other authors extensively.

The book contains seventy-seven illustrations which are good, and seven plates. We should like to have seen more colored plates. The book is a real addition to medical literature, necessary to every physician.

CONSTIPATION, OBSTIPATION AND INTESTINAL STASIS. By Samuel Goodwin Gant, M. D., LL. D., Professor of Diseases of the Colon, Sigmoid Flexure, Rectum and Anus in the New York Post-Graduate Medical School and Hospital. Second edition enlarged. Octavo of 584 pages, with 258 illustrations. Philadelphia and London; W. B. Saunders Company, 1916. Cloth, \$6.00 net; half morocco, \$7.50 net.

This book is a complete work on a much neglected subject, a subject that most of us throw over our shoulders by prescribing pills and laxatives, which is certainly not a scientific method of treatment. Every phase of the subject is gone into thoroughly, nothing neglected or nothing superfluous added to increase its size. Constipation in all its phases (psychic, atonic, spastic, fragmentary, etc.), obstipation and intestinal stasis, with symptoms relating to the same and the treatment (dietetic, physical, medical and surgical) are gone into carefully and completely.

The book is a credit to the author, who is well qualified to present this part of medicine. The illustrations are numerous, more than one would expect in a work on this subject, and they are excellent and instructive. It is a book, the possession of which will enable one to treat constipation, etc., scientifically and successfully when at all possible.

THE AMERICAN YEAR-BOOK OF ANESTHESIA AND ANALGESIA. By various contributors. F. H. McMechan, A. M., M. L., Editor. Quarto; art buckram; India tint paper; 420 pages and 250 illustrations. Surgery Publishing Company, 92 William St., New York City, 1916. Price, \$4.00.

This is an encyclopedic year-book of anesthesia, containing many valuable papers by contributors who know anesthesia. Both the science and the practice of anesthesia in all its forms are gone into with a great deal of care and detail, making it an exceedingly valuable volume for all those who in some way or other have to do with anesthesia. This is the first issue of the Year-Book of Anesthesia and it promises to be a popular work, presenting all the advances made in anesthesia and analgesia. All of the subjects covered are written by men who have had a wide and extensive experience in the laboratory and clinical use of anesthetics, and can be relied upon implicitly. The time and money spent on this work will be amply repaid by the knowledge gained. We wish it the success it deserves.



# Illinois Medical Journal

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Vol. XXX, No. 1

CHICAGO, JULY, 1916

\$2.00 a Year

## CONTENTS

## ORIGINAL ARTICLES

	PAGE		PAGE
Military Preparedness from a Surgical Standpoint. <i>George N. Kreider, M. D., Springfield, Ill.</i> .....	1	The Problem of Vaccine Therapy. <i>G. H. Sherman, M. D., Detroit, Mich.</i> .....	14
The Importance of the Postnasal Space as a Focus of Infection in Infants and Young Children. <i>George Edwin Baxter, M. D., Chicago</i> .....	5	Pregnancy Complicated by Syphilis. <i>Harry A. Kraus, M. D., Chicago</i> .....	18
The After Effects in the Nose and Throat of the Usual Winter Cold. <i>Otis H. MacLay, M. D., Chicago</i> .....	10	Physicians' Accounts. <i>C. M. Kingery, Chadwick, Ill.</i> .....	20
Medical Inspection of Schools. <i>Robert D. Luster, M. D., Granite City, Ill.</i> .....	13	Blood Ferments in Pregnancy. <i>F. H. Falls, M. D., et al, Chicago</i> .....	22
		Illinois State Medical Society—Proceedings of House of Delegates.....	26

(Continued on adv. page 28)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879.

## Graves' Gynecology

JUST OUT

This new work presents gynecology along new lines. An entire section is devoted exclusively to the *physiology* of the pelvic organs and to *correlated gynecology*—the relationship of gynecology to organs of *internal secretion*, breast, skin, organs of sense, digestion and respiration, blood, circulatory apparatus, abdominal organs, nervous system, bones, and joints. A special section is devoted to *enteroptosis*, intestinal bands, and movable kidney.

The second portion of the book is devoted to special gynecologic diseases and is arranged particularly for the convenience of medical students. The first two parts are exclusively *non-surgical*, giving only drug and mechanical treatments. The third part is exclusively a treatise on *surgical gynecology*, and includes profusely illustrated descriptions of those gynecologic operations that to the author seem most feasible. A number of new operations and modifications of older ones not in other books are given and illustrated.

Microscopic pathology is presented almost entirely by drawings, with full legends, made from the author's collection of pathologic specimens. The book is illustrated with some 300 half-tone and line-drawings, made by the author, and by some 125 microscopic drawings. Many of the illustrations are in colors.

Large octavo of 770 pages, with 425 original illustrations, many in colors. By WILLIAM P. GRAVES, M. D., Professor of Gynecology at Harvard Medical School. Cloth, \$7.00 net; Half Morocco, \$8.50 net.

W. B. SAUNDERS COMPANY West Washington Square, Phila.

This Issue 6,600 Copies

THE PHYSICIAN CAN RELY UPON

# HORLICK'S

## The Original Malted Milk

as a protection against unsanitary milk

Owing to the facilities possessed by the company to obtain clean milk throughout the year of uniform quality, as evidenced by the careful selection of herds and stringent regulations that are in force in all of their dairies.

**HORLICK'S MALTED MILK is secure from contamination, is put up in sterilized containers, is constant in composition, and is easily kept in the any home in the hottest weather without deteriorating.**

*It makes possible the carrying-out of a progressive method of feeding that conserves the best interests of the weakest baby*

See that your patients get "HORLICK'S" the original and thus avoid substitution

**HORLICK'S MALTED MILK COMPANY**  
Racine, Wisconsin

## YOUR hay-fever patients

may respond to chlorid calcium quite as well as did this case (condensed from Dr. Wilson's report in the J. A. M. A. of March 4, 1916.)

"Miss M. T., 21, had had hay-fever since childhood from May to frost. Prescribed calcium chlorid 1 gm. t. i. d., July 2d. July 28, greatly relieved. Aug. 13, no hay-fever symptoms left and none recurred during the rest of the season."

"Some hay-fever patients taking not less than 3 gm. of calcium chlorid daily, even for a short time, are practically relieved from all hay-fever symptoms".

**BUT—unless you use PURE CHLORID CALCIUM your patient's stomach is liable to revolt.**

**SHARP & DOHME**  
"Quality Products"  
Baltimore, Md.

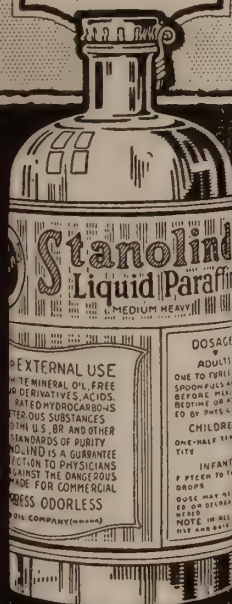


**Stanolind**

Trade Mark Reg. U. S. Pat. Off.

**Liquid Paraffin**

(Medium Heavy)

**Tasteless — Odorless  
Colorless**

## Does Not Deplete the Patient's Strength

by irritating the delicate lining of the intestines and inducing undue peristaltic activity. On the contrary, it conserves strength by lubricating the entire alimentary canal, thus assisting in a more complete evacuation of the bowel content.

This important characteristic of Stanolind Liquid Paraffin is an eloquent illustration of its superiority over salines, aperient waters and purgative drugs, and is, for example, of signal importance in the cases of patients about to undergo an operation.

Stanolind Liquid Paraffin is a safe and dependable agent for continued internal administration.

A trial quantity with informative booklet will be sent on request.

**Standard Oil Company**

(Indiana)

72 W. Adams St.

Chicago, U. S. A.

## Sugar is an Extremely Important Constituent in Infant Feeding BUT

### YOU MUST SELECT THE RIGHT SUGAR

A large part of the troubles of infant feeding has been shown to be due to the ingestion of milk sugar or cane sugar.

## MEAD'S DEXTRI-MALTOSE

from the standpoint of DIGESTIBILITY and ASSIMILABILITY represents the properly balanced carbohydrate. Composition—Maltose 52%, Dextrin 41.7%, Sodium Chloride 2%.

Administration—1½ oz. Dextri-Maltose (2 heaping tablespoonfuls) to any milk and water mixtures suited to age and weight.

Literature and Samples on Request

**Mead Johnson & Co.**

**Evansville, Ind.**

There are many grades of crude drugs  
offered for sale on the drug market

*But—*

There is only one "best"

It takes the best grade of crude drug, the highest grade of workmanship, together with the most accurate and "time-tried" methods to make



**PITMAN-MOORE COMPANY, Chemists**  
INDIANAPOLIS, INDIANA



## Hoyt's Gum Gluten DIABETIC FOODS

Supplies the much needed variety to be used in place of the forbidden wheat products.

You will find from our analyses that you can regulate your patient's diet to your entire satisfaction by prescribing Hoyt's Gum Gluten.

Send for analyses, Starch  
Restricted Diet, etc.

**The Pure Gluten Food Company**  
90 West Broadway NEW YORK CITY

## Hay Fever

LOGICALLY TREATED

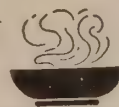
WITH

## SHERMAN'S BACTERINS

Pollen irritation favors the development of pyogenic bacteria in the respiratory tract which then become a primary factor of the disease. Experience shows that the immunizing influence of an appropriate bacterin will either cure the disease or so modify it that it causes but little distress.

WRITE OR LITERATURE

**G. H. SHERMAN, M. D.**  
DETROIT, MICHIGAN



## Bran Made Tempting

### A Luxury Dish—25% Bran

We were told by authorities that bran, to be efficient, should be in flake form.

We were told that most bran foods, while they met the requirements, lacked appeal to the palate. Not being inviting, they were not long continued.

And that what was wanted was a likable, efficient, every-day bran food that did not suggest a diet.

Those same authorities say that in Pettijohn's we have perfectly met those requirements.

We took a whole-wheat food which, for 20 years had been a favorite morning dainty. And we rolled into those flakes 25 per cent unground bran.

We know you will find here your ideal of a bran food. And it will always be a welcome prescription.

## *Pettijohn's*

*Rolled Wheat with Bran Flakes*

This is soft, flavory wheat rolled into luscious flakes hiding 25 per cent of unground bran. Can be cooked in 20 minutes. 15c per large package.

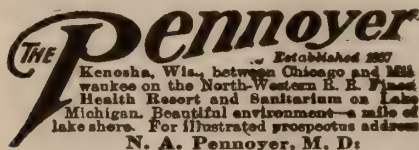
**Pettijohn's Flour** is another bran product. It is 75 per cent fine patent flour mixed with bran flakes—25 per cent. To be used like Graham flour in any recipe. 25c per large package.

**The Quaker Oats Company**

Chicago

(1351)

1848	<h1 style="margin: 0;">THE TILDEN COMPANY</h1>	1916
<p style="margin: 0;">PREPARATIONS ARE THE STANDARD OF QUALITY</p> <p style="margin: 0;"><b>SINCE 1848</b></p>		
1848	<p style="margin: 0;">NEW LEBANON, N. Y.</p> <p style="margin: 0;">ST. LOUIS, MO.</p>	1916



THIS SPACE TO LET

**DOCTOR:** It is our purpose to give to you on your orders, the best pharmaceuticals that the highest grade of crude drugs, pure chemicals and skilled workmanship, under experienced supervision, can produce.

When our man calls upon you, give him a few moments of your time. He will tell you more about what we are trying to do.

**G. D. SEARLE & CO.** Mfrs. of **Fine Pharmaceuticals and Hypodermic Tablets**  
 215-217-219 W. Ohio St. CHICAGO Telephone North 1704

**Mellin's Food** is successfully used  
 in

**Summer Diarrhea** for it furnishes  
 immediately available nutrition well suited  
 to spare the body-protein.

to prevent a rapid loss of weight.

to resist the activity of putrefactive bacteria.

to favor a retention of fluids and salts in the  
 body tissues.

**MELLIN'S FOOD COMPANY,**

**BOSTON, MASS.**



*Abbott*  
TRADE MARK

**DIGIPOTEN**  
A physiological standardized preparation containing the therapeutically valuable glucosides of digitalis leaf.

**GALACTENZYME**  
A virile culture of the bacillus bulgaricus, type A. Available in tablets and bouillon. Used to arrest intestinal putrefaction.

*Made in America*

**NUCLEIN**  
Sodium tritico-nucleinate, derived from wheat-germ, and marketed in a standardized solution. Stimulates leucocytosis.

**SLEE'S DIPHTHERIA ANTITOXIN AND SMALLPOX VACCINE**  
Standard biologic preparations of unexcelled quality.

**BILEIN**  
Contains sodium salts of the bile acids in the proportions normally present. An active cholagog.

**ABBOTT'S BACTERINS**  
A general line. See our new bulk container—also our ampules of the standard chemicals.

**SULPHO-CARBOLATES**  
The sulphocarbolates (phenolsulphonates) of calcium, sodium and zinc. We are the largest producers in America.

**SLEE'S TETANUS ANTITOXIN**  
A concentrated and refined preparation of maximum strength and efficiency.

Alkaloids, Glucosides and Other Active Principles. High-Grade Chemicals and Council-Passed Specialties; Serums, Bacterins and Vaccines. All Made on Honor and Sold on Merit. Purity and Accuracy Guaranteed. Money Back if not Satisfied. Price List, Literature and Representative Samples on Request to Home Office and Laboratories, Chicago.

**THE ABBOTT LABORATORIES**  
CHICAGO — NEW YORK

SEATTLE • • • SAN FRANCISCO  
LOS ANGELES • BOSTON (THE METCALF CO.)  
TORONTO, CAN. • BOMBAY, IND.

## READER!

are you buying your supplies from our advertisers?

Our advertising pages are your property as a member of the Illinois State Medical Society. Advertisers will pay for space in proportion as you buy from them, and thus make the space valuable to them.

Order now, and write that you saw the "ad" in the JOURNAL.

# First Annual Outing OF ILLINOIS STATE MEDICAL SOCIETY

STARVED ROCK  
STATE PARK July 12th and 13th

THIS IS NATURE'S WONDERLAND OF THE MIDDLE WEST

BOATING BATHING DANCING

**\$1.75**

Round trip from Chicago  
(Archer-Cicero Ave.,) Ill.,  
via C. & J. E. Ry., Joliet,  
Illinois.

**\$1.00**

Round trip from Joliet on  
Sundays and holidays, also  
for parties of 5 or more on  
week days.

## VIA ARCHER AVENUE

Archer-Cicero Ave. station of the Chicago & Joliet Electric Railway can be reached by boarding a southbound car on State St., or southwest bound car on Archer Ave., or by transferring to this car from any intersecting line.  
Cars leaving Archer Ave. Station—In A. M. 6:30—7:30—8:30—10:30. In P. M. 12:30—1:30—2:30—4:30—6:30, make direct connection with our cars at Joliet, Ill.

## VIA JOLIET, ILL.

By using Chicago, Rock Island and Pacific Ry. trains leaving Chicago 7:00 A. M.—9:00 A. M.—11:45 A. M.—1:00 P. M.—3:25 P. M., or Chicago & Alton R. R. trains 9:00 A. M.—1:30 P. M.—4:00 P. M., or Atchison, Topeka & Santa Fe Ry. trains 9:50 A. M.—12:15 P. M.—4:45 P. M., connection can be made at Joliet, Ill., with our cars.

## SPECIAL ACCOMMODATIONS

Special accommodations to and from Joliet, Ill., can be arranged in advance for parties of 50 or more people.

LOCATED EXCLUSIVELY ON THIS LINE

Write or phone

**CHICAGO, OTTAWA & PEORIA RY.**

**JOLIET, ILL.—PHONE 2511**  
**CHICAGO—PHONE DROVER 2795**

GENERAL OFFICE, JOLIET, ILL.

## Bureau of Chemistry, U. S. Department of Agriculture:

"The spurious aspirin is a mixture of either calcium phosphate and starch, cream of tartar and citric acid with some alum; or milk sugar, starch and calcium acid phosphate."—  
(From N. Y. Department of Health "Weekly Bulletin", Nov. 6, 1915)

By Specifying

# Bayer-Tablets

OF

# Aspirin

(5 grs. each)

## You Avoid Counterfeits

### Be Sure of Your Aspirin

"Recent seizures in various cities of the country of numerous quantities of spurious aspirin make it important that the druggist should assure himself in all cases of the reliability of the source of his supply."—**Pacific Drug Review**, Feb., 1916.

The trade-mark  
"Aspirin" (Reg.  
U. S. Pat. Office)  
is a guarantee  
that the mono-  
acetic acid ester of  
salicylic acid in  
these tablets is  
of the reliable  
Bayer manu-  
facture.



# ALEXANDER'S TYPHOID VACCINE

---

**T**HE value of this product in the prevention of Typhoid Fever is recognized by all authorities.

The success attained by its use in the United States Army places it above all other methods for the prevention of Typhoid Fever. Major F. F. Russell reports only one doubtful case among the vaccinated men in the Army from December, 1912, to August, 1913.

ALEXANDER'S TYPHOID VACCINE is prepared and standardized by scientists trained in this particular line of work.

The contract for supplying the Illinois State Board of Health has been awarded to the ALEXANDER Laboratories.

**DR. H. M. ALEXANDER & CO.**  
MARIETTA, PA.

*Trade Supplied by*

**JOHN WYETH & BROTHER**  
174 West Lake Street  
CHICAGO, ILL.

# Immunize 4th of July Wounds with Tetanus Antitoxin

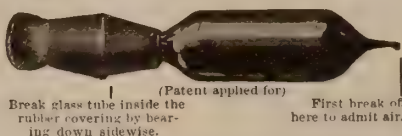
The following rules for the prevention of tetanus are from an editorial in the Journal of the American Medical Association, 1909, page 954 :

- "1. Freely incise every wound.
- "2. Carefully and thoroughly remove from the wound every particle of foreign matter.
- "3. Cauterize the wound thoroughly with Tincture of Iodine.
- "4. Apply a loose wet boric acid pack.
- "5. Inject subcutaneously 1500 units antitetanic serum (Tetanus Antitoxin).
- "6. In no case should the wound be closed ; it should be allowed to heal by granulation. The dressing and packing should be removed every day."

**The Mulford Tetanus Antitoxin is Furnished in Improved Glass Syringes and May be Supplied by All Prominent Pharmacists**

**1500 units (immunizing dose) ; 3000 and 5000 units (therapeutic doses).**

## Mulford "First Aid" Ampuls Prevent Wound Infections



The Mulford "First Aid" Iodine Ampuls, containing 3 1-2 per cent solution of Iodine, protect wounded or abraded surfaces immediately with this most effective antiseptic.

**They are effective and easy to use.**

Supplied in packages of 10 Ampuls. Sample ampul mailed upon request.

**Instruct your druggist to place these emergency remedies in stock.**



### H. K. MULFORD COMPANY

Manufacturing and Biological Chemists

Home Office and Laboratories, PHILADELPHIA, U. S. A.





## WASSERMANN TEST \$5.00

All Serological Tests \$5.00. Pathological Examination of Tissue, \$5.00. Autogenous Vaccines, \$5.00. Sputum, Smears, Pus, etc., \$1.00. Urinalysis, Complete Chemical and Microscopical, \$1.50. All other work in keeping with the above low prices. Examinations performed by experts in their respective fields.



Main Laboratory

## We Analyze Everything

Write for our fee table with instructions for sending specimens. Containers and culture media on request.

### ACCURACY LABORATORIES

1724-1726 W. Madison Street, CHICAGO, ILL.

Laboratory Instruction Given to Physicians

## The STORM Binder and Abdominal Supporter

PATENTED



Special High Kidney Belt

MEN, WOMEN, CHILDREN AND BABIES

No Whalebones. No Rubber Elastic.  
Washable as Underwear

High and Low Operations, Hernia,  
Relaxed Sacro-iliac Articulations,  
Floating Kidney, Obesity, Preg-  
nancy, Ptosis, Pertussis, etc.

Send for illustrated folder and Testimonials of Physicians.  
Mail Orders filled within Twenty-four Hours.

KATHERINE L. STORM, M. D.  
1541 Diamond St., PHILADELPHIA, PA.

## 50% Better Prevention Defense Indemnity

1. All claims or suits for alleged civil malpractice, error or mistake, for which our contract holder,
2. Or his estate is sued, whether the act or omission was his own
3. Or that of any other person (not necessarily an assistant or agent),
4. All such claims arising in suits involving the collection of professional fees,
5. All claims arising in autopsies, inquests and in the prescribing and handling of drugs and medicines.
6. Defense through the court of last resort and until all legal remedies are exhausted.
7. Without limit as to amount expended.
8. You have a voice in the selection of local counsel.
9. If we lose, we pay to amount specified, in addition to the unlimited defense.
10. The only contract containing all the above features and which is protection per se.

A Sample Upon Request

The  
MEDICAL PROTECTIVE COMPANY  
of Ft. Wayne, Indiana.

Professional  
Protection, Exclusively

## We Now Have a Department of **PATHOLOGICAL CHEMISTRY**

especially equipped to make all the newer **CHEMICAL TESTS OF BLOOD AND URINE**. This work has been carried out by **Folin and Denis, Benedict, Myers and Fine**, and has proven of great benefit in the diagnosis and treatment of **Nephritis, Diabetes, Rheumatism, and Gout**. These tests show by examination of the blood what the kidneys **do not throw out**, and by urinary examination **what they excrete**. They are qualitative and quantitative, estimating exactly the amount of urea and uric acid, creatinine, total nitrogen, and sugar, in both blood and urine.

Full particulars given on request with containers and directions for sending in blood.

### Complete Chemical

Blood Test - - \$10.00

### Complete Urinary Test

as above - - 5.00

### Test for CO<sub>2</sub> to determine

Acidosis - - 5.00

### All our Serological Tests are 5.00

(We control all our Wassermann work by the Hecht - Weinberg - Gradwohl Reaction.)

Tissues - - - 5.00

### Pasteur Treatment

(18 ampoules with glass syringe) 50.00

N. B.—Note our new address. We are in new and absolutely modern equipped-to-the-minute laboratories.

## Gradwohl Biological Laboratories

928 N. Grand Avenue

ST. LOUIS, MO.

R. B. H. GRADWOHL, M. D., Director

## Chicago Pasteur Institute

25th YEAR

812 NORTH DEARBORN STREET

CHICAGO

FOR THE PREVENTIVE TREATMENT OF HYDROPHOBIA

ANTONIO LAGORIO, M.D. LL.D., Medical Director

G. B. BRUNO, M.D., Associate Director

FRANK A. LAGORIO, M.D., Associate Director

**Announcement**—Since October, 1910, this institute has taken an advanced progressive step in abandoning the old methods now in vogue, discarding the cords treatment, and in adopting instead the use of the brain substance properly treated and attenuated and rendered safe by having its virulence destroyed. Telephone Superior 973.

*N. B.—We have no branches and the use of our name is unauthorized.*

## AREND-ADAMICK DOUBLE KUMYSS

**AN IDEAL FOOD** for all conditions of enfeebled digestive power from any cause, malnutrition in infants or the aged—a sustaining diet during the course of acute infectious diseases and gastro-intestinal disorders  
**EASILY ASSIMILATED** and contains the elements essential for the nourishment of the organism.  
**A VALUABLE NUTRIENT** in Typhoid, Enteritis, Marasmus, Acute fevers, Gastric Ulcer, Anemia, Vomiting of Pregnancy, Asthenic fevers and during Convalescence.

Its taste is pleasantly acidulous—its enticing flavor is unusually acceptable to the capricious appetite of the sick—it may be used for days as an exclusive diet.

Booklet giving instructions and interesting clinical report, also price list, free on request.

**A. AREND DRUG COMPANY**

Manufacturing Chemists

182 West Madison Street, Chicago





# CHICAGO LABORATORY

CLINICAL ANALYTICAL

Marshall Field Annex Bldg.

Established 1904

25 EAST WASHINGTON STREET

Telephone Randolph 3610

CHICAGO

Valuable in the treatment of all chronic suppurative diseases.

The infected organism isolated and cultivated on proper media, and an auto-genous vaccine prepared and sent in sterile containers ready for use.

*Send for Container and Instruction*

*Our names and reputations stand back of our work*

RALPH W. WEBSTER, M.D., Ph.D., Director of Chemical Department  
 THOMAS L. DAGG, M.D., Director of Pathological Department  
 C. CHURCHILL CROY, M.D., Director of Bacteriological Department





MAKERS OF MODERN PHARMACEUTICALS  
REQUESTS A TRIAL OF  
**PILL CHOLEOLITHINE**  
(Schmidt—S. C. Orange)

Doctor, if you are tired of experimenting with the various old time formulas of "liver pills," "liver salts," and nauseating liquid mixtures, this product will surely appeal to you.

R Acid Sodium oleate.....1 gr.  
True Salicylic acid.....1 gr.  
Sodium choleate.....1 gr.  
Extract of Cascara..... $\frac{1}{2}$  gr.  
Menthol ..... $\frac{1}{10}$  gr.

Nine years of unqualified success have proven to the profession that this formula is

**Reliable, Safe, Efficient**  
Same old price, no advancement on account of war

O. F. Schmidt Chemical Co. Chicago Branch, 180 N. Market St. Phone Franklin 4346  
or Physician's Supply and Drug Co., 425 Honore St., Chicago

# SWAN'S BULGARIAN BACILLUS

Dead  
Cultures  
Are  
Worthless



We  
Supply  
Pure  
Living  
Organisms

THE investigation of Dr. Arthur J. Bendick, J. A. M. A., Vol. LXIV, showed that few of the preparations of Bulgarian Bacillus on the market actually contain living organisms. This product should not be carried in stock by the physician, but should be ordered as wanted.

Direct from our Laboratories—complete directions with each package

**SWAN-MYERS COMPANY**

**Indianapolis, Ind., U. S. A.**



# ILLINOIS STATE MEDICAL SOCIETY

## SECTION OFFICERS AND COMMITTEES

**SECTION ONE**  
E. J. Brown, Chairman.....Decatur  
H. W. Cheney, Secretary.....Chicago

**SECTION TWO**  
G. W. Green, Chairman.....Chicago  
Don Deal, Secretary.....Springfield

**SECRETARY'S CONFERENCE**  
Elizabeth Ball, President.....Quincy

H. B. Henkel, Vice-President.....Springfield  
Flint Bondurant, Secretary.....Cairo

**SECTION ON PUBLIC HEALTH AND HYGIENE**  
M. W. Snell, Chairman.....Litchfield  
Gustav F. Ruediger, Secretary.....La Salle

**SECTION ON EYE, EAR, NOSE AND THROAT**  
Joseph Beck, Chairman.....Chicago  
R. J. Tivnen, Secretary.....Chicago

## COUNTY SOCIETIES

This list is corrected in accordance with the best information obtainable at the date of going to press. County Secretaries are requested to notify The Journal of any changes or errors.

**Adams County**

Dan G. Stine, Pres.....Quincy  
Elizabeth B. Ball, Secy.....Quincy

**Alexander County**

W. F. Grinstead, Pres.....Cairo  
H. A. Davis, Secy.-Treas.....Cairo

**Bond County**

W. T. Easley, Pres.....Greenville  
J. C. Wilson, Secy.....Greenville

**Boone County**

Geo. Markley, Pres.....Poplar Grove  
H. E. Delavergne, Secy.....Belvidere

**Brown County**

D. R. Peters, Pres.....Timewell  
E. C. Allworth, Secy.-Treas.....Mt. Sterling

**Bureau County**

C. C. Barrett, Pres.....Princeton  
M. A. Nix, Secy.....Princeton

**Calhoun County**

W. A. Skeel, Pres.....Kampsville  
J. H. Peisker, Secy.....Hardin

**Carroll County**

W. W. McGrath, Pres.....Savanna  
R. B. Rice, Secy.-Treas.....Mt. Carroll

**Cass County**

C. E. Soule, Pres.....Beardstown  
T. G. Charles, Secy.....Beardstown

**Champaign County**

J. H. Finch, Pres.....Champaign  
Wm. V. Secker, Secy.....Champaign

**Christian County**

R. C. Danford, Pres.....Pana  
S. B. Herdman, Secy.....Taylorville

**Clark County**

S. W. Weir, Pres.....West Union  
S. C. Bradley, Secy.....Marshall

**Clay County**

C. E. Duncan, Pres.....Flora  
R. D. Finch, Secy.....Flora

**Clinton County**

J. A. Bauer, Pres.....Germantown  
J. Q. Roane, Secy.....Carlyle

**Coles County**

Edmund Summers, Pres.....Mattoon  
R. H. Craig, Secy.....Charleston

**Cook County**

Chas. J. Whalen, Pres.....Chicago  
C. E. Humiston, Secy.....Chicago

**Crawford County**

A. G. Brooks, Pres.....Stoy  
C. E. Price, Secy.....Robinson

**Cumberland County**

N. J. Hauton, Pres.....Greenup  
DeKalb County

L. E. Barton, Pres.....Malta

J. B. Hagey, Secy.....DeKalb

**De Witt County**

J. C. Myers, Pres.....Clinton  
Charles W. Carter, Secy.....Clinton

**Douglas County**

I. N. C. McKinney, Pres.....Murdock  
Walter C. Blaine, Secy.....Tuscola

**Du Page County**  
(Affiliated with Cook County)

Wm. A. Buchanan, Pres.....Paris  
George H. Hunt, Secy.....Paris

**Edwards County**

C. S. Brannen, Pres.....Albion  
W. E. Buxton, Secy.....West Salem

**Effingham County**

Geo. Haumesser, Pres.....Effingham  
F. N. A. Hoffman, Secy.....Effingham

**Fayette County**

A. E. Greer, Pres.....Brownstown  
A. R. Whitefort, Secy.....St. Elmo

**Franklin County**

Wm. H. Smith, Pres.....Benton  
Edgar Austin, Secy.....Benton

**Fulton County**

C. N. Allison, Pres.....Canton  
D. S. Ray, Secy.-Treas.....Cuba

**Gallatin County**

J. W. Bowling, Pres.....Shawneetown  
A. B. Capel, Secy.....Shawneetown

**Greene County**

C. R. Thomas, Pres.....Roodhouse  
H. A. Chapin, Secy.....White Hall

**Grundy County**

Roscoe Whitman, Pres.....Morris  
F. C. Bowker, Secy.....Morris

**Hamilton County**

P. M. Nation, Pres.....McLeansboro  
I. M. Asbury, Secy.....McLeansboro

**Hancock County**

Blair Kelley, Pres.....Ferris  
S. M. Parr, Secy.....Carthage

**Hardin County**

W. J. J. Paris, Pres.....Rosiclare  
F. A. Jones, Secy.....Rosiclare

**Henderson County**

W. J. Emerson, Pres.....Carman  
I. F. Harter, Secy.....Stronghurst

**Henry County**

Chas. F. Young, Pres.....Geneseo  
P. J. McDermott, Secy.....Kewanee

**Iroquois-Ford District**

Martha Anderson, Pres.....Roberts  
D. W. Miller, Secy.....Gilman

**Jackson County**

Harriet N. Daniel, Pres.....Murphysboro  
C. M. Thompson, Secy.....Makanda

**Jasper County**

W. E. Franke, Pres.....Newton  
James P. Prestley, Secy.-Treas.....Newton

**Jefferson County**

Todd P. Ward, Pres.....Mt. Vernon  
Andy Hall, Secy.....Mt. Vernon

**Jersey County**

A. A. Barnett, Pres.....Jerseyville  
H. R. Bohannon, Secy.....Jerseyville

**Jo Daviess County**

A. T. Nadig, Pres.....Elizabeth  
T. J. Stafford, Secy.....Stockton

**Johnson County**

C. D. Nobles, Pres.....Buncombe  
H. W. Walker, Secy.....Grantsburg

**Kane County**

W. H. Schwingel, Pres.....Aurora  
Robt. S. Denney, Secy.-Treas.....Aurora

**Kankakee County**

Joseph A. Guertin, Pres.....Kankakee  
C. F. Smith, Secy.....Kankakee

**Kendall County**

R. A. Schaefer, Pres.....Plano  
Robt. McClelland, Secy.....Yorkville

**Knox County**

A. G. Keener, Pres.....Altona  
G. S. Bower, Secy.....Galesburg

**Lake County**

John P. O'Neill, Pres.....Highland Park  
C. S. Ambrose, Secy.-Treas.....Waukegan

**La Salle County**

R. C. Fullenweider, Pres.....LaSalle  
E. E. Perisho, Secy.....Streator

(Continued on page 17)

# HAY FEVER PROPHYLAXIS.

Autumnal pollinosis (the ordinary hay fever of late summer and early fall) is held to be due to the pollen of ragweed, or to other pollens closely analogous to ragweed in their protein content.

An efficient immunizing agent in this type of hay fever is

## **RAGWEED POLLEN EXTRACT.**

---

The extract is administered hypodermatically.

We supply an accurately standardized product.

Ragweed Pollen Extract has given good results when administered after the onset of symptoms, but *the best effects are obtained by starting immunizing treatment a month or six weeks before the pollen season.*

## **For Fall Pollinosis—Immunize Now!**

Each package of Ragweed Pollen Extract contains three 5-mil (5-Cc.) vials of 10 units, 100 units and 1000 units per mil (Cc.) respectively; one vial of physiological salt solution for use as a diluent, and one scarifier. When injecting, use any small syringe—preferably the so-called tuberculin syringe.

**Full directions as to application and dosage accompany each package.**

NOTE.—In packages corresponding to those of Ragweed Pollen Extract, we also market **Timothy Pollen Extract** for the treatment of spring pollinosis, and **Pollen Extract Combined (Timothy and Ragweed)** for treatment of individuals susceptible to both types of pollen.

**LITERATURE SUPPLIED ON REQUEST.**

Home Offices and Laboratories,  
Detroit, Michigan.

**Parke, Davis & Co.**



# • IODAGOL •

The ONLY

(ELECTRO-COLOIDAL IODINE)

## Will "Clean-Up" Specific Urethritis

in less time than will other known remedies, and do it without any "flarebacks."

**When Ordering, Specify Exact Form Needed:**

**IODEOL:** 1 c. c. Ampoules (20% susp.) for intramuscular injection; 4-grain Capsules (25% susp.—internal); 15½-gm. and 45-gm. Vials (50% susp.—external); Ovules (25% susp.—gynecological).

**IODAGOL:** 2 c. c. Ampoules (25% susp.) and Vials of 20-gm. and 45-gm. (25% susp.) for urethral injection.

**IODAGOL DRESSING:** Vials of 20-gm. and 45-gm. (25% susp.) for wounds and open surfaces.

Gonococci cannot exist in an iodine atmosphere.

A 1-4000 iodine solution will destroy them.

"I know of no other single agent as valuable as iodine in the early stages of gonorrhea in the female." "Gonococci disappear early from the secretions."

Colloidal Iodine (Iodagol) is rapidly and thoroughly diffusible, non-irritating, non-escharotic and non-toxic. "It brings about a rapid and certain cure in gonorrhea and causes a disappearance of the gonococci, without in any way interfering with the integrity of the organs."

Iodagol thoroughly impregnates the tissues with iodine, searching out and destroying the gonococci which find lodgment in the subepithelial structures and the deeper glands. Ask for the literature.

Send your address on a postcard and it will be placed on the complimentary mailing list of the new medical quarterly, "ELECTRO-COLOIDAL IODINE THERAPY," keeping you informed of the most modern practice in this important field.



### COUNTY SOCIETIES—Continued

#### Lawrence County

E. M. Cooley, Pres.....Lawrenceville  
Thos. Kirkwood, Secy.....Lawrenceville

#### Lee County

Chas. A. Kost, Pres.....Dixon  
Edmund B. Owens, Secy.....Dixon

#### Livingston County

A. B. Richardson, Pres.....Emington  
John Ross, Secy.....Pontiac

#### Logan County

W. W. Coleman, Pres.....Lincoln  
H. S. Oyler, Secy.....Lincoln

#### McDonough County

E. R. Miner, Pres.....Macomb  
Geo. S. Duntley, Secy.....Bushnell

#### McHenry County

C. W. Goddard, Pres.....Harvard  
N. L. Seelye, Secy.....Harvard

#### McLean County

Edwin P. Sloan, Pres.....Bloomington  
Thos. D. Cantrell, Secy.....Bloomington

#### Macon County

M. P. Parish, Pres.....Decatur  
F. E. Smith, Secy.....Decatur

#### Macoupin County

M. McMahan, Pres.....Palmyra  
T. D. Doan, Secy.....Scottville

#### Madison County

R. D. Luster, Pres.....Granite City  
E. W. Fiegenbaum, Secy.....Edwardsville

#### Marion County

G. M. Gimbill, Pres.....Centralia  
S. A. Smith, Secy.....Odin

#### Marshall-Putnam County

R. R. Eddington, Pres.....Lacon  
H. S. Gillespie, Secy.....Wenona

#### Mason County

H. O. Rogier, Pres.....Mason City  
W. R. Grant, Secy.....Easton

#### Massac County

J. A. Orr, Pres.....Metropolis  
J. A. Helm, Secy.....Metropolis

#### Menard County

W. A. Mudd, Pres.....Athens  
L. E. Orr, Secy.....Tallula

#### Mercer County

F. J. Rathbun, Pres.....New Windsor  
A. N. Mackey, Secy.....Aledo

#### Monroe County

S. Kohlenbach, Pres.....Columbia  
L. Adelsberger, Secy.....Waterloo

#### Montgomery County

Z. V. Kimball, Pres.....Hillaboro  
H. F. Bennett, Secy.....Litchfield

#### Morgan County

T. O. Hardesty, Pres.....Jacksonville  
T. G. McLin, Secy.....Jacksonville

#### Moultrie County

W. P. Davidson, Pres.....Sullivan  
C. W. Taylor, Secy.....Bethany

#### Ogle County

L. M. Griffin, Pres.....Polo  
J. T. Kretsinger, Secy.....Leaf River

#### Peoria City Medical Society

C. D. Thomas, Pres.....Peoria  
E. W. Oliver, Secy.....Peoria

#### Perry County

A. W. Daggett, Pres.....Du Quoin  
J. D. Byrne, Secy.....Du Quoin

#### Platt County

W. G. McPherson, Pres.....Bement  
B. L. Barker, Secy.....Monticello

#### Pike County

R. P. Wells, Pres.....Pleasant Hill  
W. E. Shastid, Secy.....Pittsfield

(Continued on page 18)



## THE OTTAWA TUBERCULOSIS COLONY

OTTAWA, ILL.

is devoid of the "institutional atmosphere."  
It is designed and conducted to meet the  
requirements of patients who demand



**Privacy and  
Individual Attention**

*Special consideration is given  
to Quality of Service*

**Rates \$22.00 to \$35.00 per week**

**H. V. PETTIT, Supt.**

OTTAWA

ILLINOIS



## Chicago Fresh Air Hospital

(FOR TUBERCULOSIS)

*At Rogers Park, Chicago, Illinois*

Patients received in *all* stages of Pulmonary Consumption.

Private Rooms and Board, \$25.00 per week.

Open Porch and two-bed Rooms, with Board, \$14.00.

**Tuberculin Treatment  
Artificial Pnuemo-Thorax**

**DR. ETHAN A. GRAY,**

*Medical Superintendent.*

## THE POTTENGER SANATORIUM

MONROVIA, CALIFORNIA

**FOR DISEASES OF THE LUNGS AND THROAT**



A thoroughly equipped institution for the scientific treatment of tuberculosis. High class accommodations. Ideal all-year-round climate. Surrounded by orange groves and beautiful mountain scenery, 45 minutes from Los Angeles.

**F. M. POTTENGER, A.M., M.D. LL.D.,**  
Medical Director.

**J. E. POTTENGER, A.B., M.D.,** Assistant  
Medical Director and Chief of Laboratory.

**GEORGE H. EVANS, M.D.** San Francisco,  
Medical Consultant.

**For Particulars, Address THE POTTENGER SANATORIUM, Monrovia, California**  
LOS ANGELES OFFICE, 1100-1101 TITLE INSURANCE BUILDING, FIFTH AND SPRING STREETS



# EDWARD SANATORIUM

For the Treatment of Incipient Pulmonary Tuberculosis  
NAPERVILLE, ILLINOIS



Established 1907. Attractive surroundings. Large grounds. Open-air sleeping cottages and infirmary with all appointments necessary for the comfort of the patients.

Modern hygienic-dietetic method of treatment. Medical and laboratory facilities. Resident physicians and trained nurses.

**Tuberculin Treatment and Artificial Pneumothorax in suitable cases**

*For detailed information, rates and rules of admission, apply to*

**CHICAGO TUBERCULOSIS INSTITUTE, 8 South Dearborn Street, Room 1212, CHICAGO, ILL.**



# Oconomowoc Health Resort

OCONOMOWOC, WISCONSIN

**For Nervous and Mild Mental Diseases**

**Building New, Most Approved Fireproof Construction**

**ARTHUR W. ROGERS, M.D., Resident Physician in Charge**  
LONG DISTANCE TELEPHONE

Built and equipped to supply the demand of the neurasthenic, borderline and undisturbed mental case for a high class home free from contact with the palpable insane, and devoid of the institutional atmosphere. Forty-one acres of natural park in the heart of the famous Wisconsin Lake Resort Region. Rural environment, yet readily accessible. The new building has been designed to encompass every requirement of modern sanitarium construction, the comfort and welfare of the patient having been provided for in every respect. The bath department is unusually complete and up-to-date. Number of patients limited, assuring the personal attention of the resident physician in charge.

On Main Line Chicago, Milwaukee & St. Paul Railway  
30 Miles West of Milwaukee

**Trains met at Oconomowoc on request.**

# The Norbury Sanatorium

JACKSONVILLE

:-:

ILLINOIS

*Established by Dr. Frank P. Norbury, 1901*

**Incorporated and Licensed**

**“Maplewood” — “Maplecrest”**

**Capacity Forty Beds**

**P**PRIVATE RESIDENTIAL HOMES for the treatment of Nervous and Mental Disorders. Especial attention given to the treatment, by approved modern methods, of the Psychoneuroses, Exhaustion states and selected Psychoses and addiction cases.

**Dr. FRANK P. NORBURY,**  
Medical Director. (Late  
Alienist, State Board of Ad-  
ministration. Formerly  
Supt. Kankakee State Hos-  
pital.)

**DR. ALBERT H. DOLLEAR**  
Superintendent (Late  
Clinical Asst., State Psycho-  
pathic Institute, Kankakee,  
Formerly Asst. Supt., Water  
town State Hospital.)

**Address all communications, THE NORBURY SANATORIUM, 806 South Daimond Street, JACKSONVILLE, ILLINOIS**  
Springfield Office, DR. FRANK P. NORBURY, 407 South Seventh Street, by appointment

# Kenilworth Sanitarium

(Established 1905)

## KENILWORTH, ILLINOIS

(C. & N.-W. Railway. Six miles north of Chicago)



All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois

Built and equipped for the treatment of nervous and mental diseases. Approved diagnostic and therapeutic methods. An adequate night nursing service maintained. Sound proof rooms with forced ventilation. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.

### Resident Medical Staff

Margaret S. Grant, M. D., Sherman Brown, M. D.  
Sanger Brown, M. D.,  
Chicago Office: 59 E. Madison Street,  
Telephone: Randolph 5794 Hours: 11 to 1, by appointment only



Established 1867

# BELLEVUE SANITARIUM

BATAVIA, ILLINOIS  
near CHICAGO

*For Nervous and Mental Diseases  
of Women Only*

Restful, homelike and accessible. Treatment modern,  
scientific and ethical.

TERMS MODERATE. WRITE FOR BOOKLET



# The Hygeia Hospital

Formerly  
The Hygeia Sanitarium

Is the only institution in the Middle West

**exclusively treating Drug and Alcohol Addiction**

by the method given to the medical profession through the Journal A. M. A., June, 1913.

Patients freed from their habit and craving without suffering or publicity. By means of clinical and laboratory examinations, the treatment is adapted to the condition of the individual.

A fixed charge is made, covering all ordinary expenses.

Reprints and other information sent on request.

Wm. K. McLaughlin, M. D.  
Med. Supt.

2715 Michigan Boulevard  
CHICAGO, ILL.



BUILDING ABSOLUTELY FIRE-PROOF

# Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF

**NERVOUS DISEASES**

BYRON M. CAPLES, M.D., Superintendent

Waukesha

::

Wisconsin



# NEURONHURST

Dr. W. B. Fletcher's Sanatorium



**For Treatment of Mental and Nervous Diseases, Including Legally Committed and Voluntary Cases**

Well equipped with all facilities for the care and treatment of all forms of mental and nervous diseases, inebriety, drug addiction and those requiring recuperation and rest. Gynecological department is in charge of skilled women physicians. All approved forms of Hydrotherapy, Balneotherapy, Massage, Swedish Movements, etc. All forms of Electrical Treatments. Phototherapy, High Frequency and X-Ray work. A strictly ethical institution. Correspondence with physicians invited. For particulars and terms, address:

**DR. MARY A. SPINK, Superintendent.** Long Distance Telephones **1140 E. Market St., INDIANAPOLIS**

## DR. SIDNEY D. WILGUS

Retiring Superintendent of Kankakee State Hospital, also former Superintendent of Elgin State Hospital.

### Begs to Announce

**that he has purchased a Sanitarium at Rockford, Ill. (The Ransom)**

and is prepared to give personal care and attention to mental and nervous cases and drug addictions. Modern features having been added, the equipment is qualified to give up-to-date treatment. Also tennis, croquet, boating, and other out-door exercises are prescribed. A nine-hole golf course is near by. Correspondence solicited, or, to save time, telephone: Long Distance, Rockford 3767, and reverse the charges. On request patients are met at any train with an automobile.

**Mail address, DR. SIDNEY D. WILGUS, Box 304, Rockford, Ill.**

**Chicago Office. Thursday Mornings until 12 at Suite 1603, 25 E. Washington St.**

**And by appointment**



ENTRANCE

WEST HOUSE

OFFICE AND BATH HOUSE

PSYCHOPATHIC HOSPITAL

GYMNASIUM

**ESTABLISHED  
IN 1884**

## THE MILWAUKEE SANITARIUM FOR NERVOUS AND MENTAL DISEASES

**WAUWATOSA,  
WIS.**

Located at Wauwatosa (a suburb of Milwaukee) on O. M. & St. P. Ry., 2½ hours from Chicago, 15 minutes from Milwaukee, 5 minutes from all cars. Two lines street cars. Complete facilities and equipment as heretofore announced. † New West House: Rooms en suite with private baths. † New Psychopathic Hospital: Continuous baths, fire-proof building, separate grounds. † New Gymnasium and Recreation Building: Physical culture, new "Zander" machines, shower baths. † Modern Bath House: Hydrotherapy, Electrotherapy, Mechano-therapy. † 30 acres beautiful hill, forest and lawn. Five houses. Individualized treatment. Descriptive booklet will be sent upon application.

**RICHARD DEWEY, A. M., M. D.**

**EUGENE CHANEY, A. M., M. D.**

**J. E. ROBINSON, M. D.**

**CHICAGO OFFICE**  
Marshall Field Annex Building  
25 East Washington Street  
Wednesdays 1 to 3, except July and August



## The Cincinnati Sanitarium For Mental and Nervous Diseases

Incorporated 1873

A strictly modern hospital fully equipped for the scientific treatment of nervous and mental affections. Situation retired and accessible. For details write for descriptive pamphlet.

F. W. Langdon, M.D., Medical Director

B. A. Williams, M. D., Resident Physician

Emerson A. North, M. D., Resident Physician

H. P. COLLINS, Business Manager, Box No. 4, College Hill, Cincinnati, Ohio



ABSOLUTELY FIREPROOF BUILDING

LESS THAN THREE HOURS FROM CHICAGO

## Mud Baths

For the treatment of RHEUMATISM, Nervousness, Kidney, Liver and Skin Diseases, and all ailments requiring elimination and relaxation. Location beautiful; climate healthful; 80 acres of private grounds.

DR. AUGUSTUS S. GILLES, Medical Director

*Correspondence with physicians solicited*

For rates, literature and reservations, address

**Waukesha Moor (Mud) Bath Co.**  
WAUKESHA, WISCONSIN

## PEARSON HOME

For the Treatment of  
DRUG ADDICTIONS

Avoidance of shock and suffering enables us to treat safely and successfully those extreme cases of morphinism that from long continued heavy doses are in poor physical condition.

HILLSDALE -:- Baltimore Co., Md.

## The Peoria Mud Baths

We insist that your patients can eliminate as freely and as effectually in Illinois as in any other State in the Union.

Strict ethical relations. Thoroughly equipped. Have had thousands of patients. The only developed mineral springs in the State. One hundred rooms devoted to baths.

DR. E. W. OLIVER, Medical Supt.

**SULPHUR SPRINGS SANITARIUM**  
215-217 N. Adams St. Peoria, Illinois





# DR. WEIRICK'S SANITARIUM

FORMERLY DR. BROUGHTON'S SANITARIUM  
ESTABLISHED IN 1901

**For Opium, Morphine  
Cocaine and Other Drug  
Addictions, Including  
Alcohol and Special  
Nervous Cases**

Methods easy, regular, humane.  
Good heat, light, water, help, board,  
etc. Number limited to 44. A well  
kept home. Nervous-Mental De-  
partment in charge of Dr. W. L.  
Ransom. Address

**DR. G. A. WEIRICK**  
SUPERINTENDENT

**2007 South Main Street**

Phone 536  
**Rockford - - - Illinois**

**PETTEY & WALLACE**  
958 S. Fifth Street  
MEMPHIS, TENN. **SANITARIUM**



FOR THE TREATMENT  
OF

**Drug Addiction, Alcoholism,  
Mental and Nervous Diseases**

A quiet, home-like, private, high-  
class institution. Licensed. Strictly  
ethical. Complete equipment. Best  
accommodations.

Resident physician and trained  
nurses.

Drug patients treated by Dr.  
Petty's original method.

Detached building for mental  
patients.

# The Peoria Sanatorium

A private Sanatorium for the treatment of Nervous and Mental Diseases,  
by modern methods. Flowing Sulphur Spring. Licensed by the State.

**DRUG AND LIQUOR HABITS TREATED**

WRITE FOR BOOKLET

**Director, DR. GEO. W. MICHELL**

**PHONE MAIN 225.**

**Address, 106 N. Glen Oak, PEORIA, ILL.**

## ILLINOIS POST-GRADUATE MEDICAL SCHOOL

General clinics are conducted in Surgery, Gynecology, Pediatrics, Orthopedics, Dermatology, Diseases of the Urinary Tract, Clinical Medicine, Eye, Ear, Nose and Throat.

Courses are given in Laboratory Diagnosis — covering Blood, Bacteria, Urinalysis and Gastric Contents. Also Practical Courses in the Wassermann Reaction. Noguchi and Gonorrhea Fixation, Colloidal Gold and Nonne Tests are given.

Professor Paul Gronnerud conducts Special Courses in Operative Surgery and Surgical Anatomy, together with special work upon dog.

Address **JAMES A. CLARK, M. D., Secretary**

1846 West Harrison Street

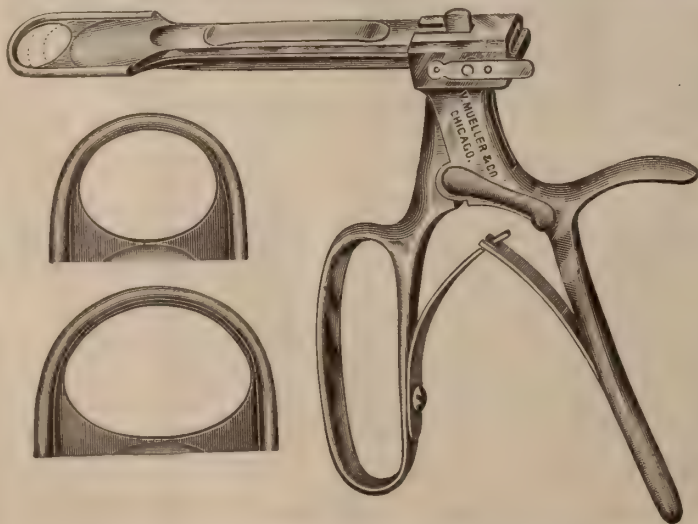
:

:

CHICAGO, ILL.

## DR. A. M. CORWIN'S IMPROVED Sluder-Ballenger Guillotine For Tonsillectomy

*Learn How to Use It—Write for Information*



**Simple—Powerful—Durable  
Quickly Adjustable—Reliable**

*This is the only  
Official Pattern, Avoid Crude  
Cheap Imitations*

An improperly formed instrument will not perform the Sluder operation WELL as it should be done in every case.

**V. MUELLER & CO.**  
Makers of Surgeons' Instruments  
1771-81 Ogden St., CHICAGO



# Chicago College of Medicine and Surgery

**MEDICAL  
DEPARTMENT OF  
VALPARAISO  
UNIVERSITY**



**702-706  
SO. LINCOLN ST.  
CHICAGO, ILL.**

**Main College Building and Willard Hospital**

This College has an enrollment of 500 students. The Laboratory and Hospital facilities are abundant.  
The Faculty consists of men who have distinguished themselves as medical educators.  
The College is not burdened with debts and is therefore able to expend all of its income upon the courses of instruction.  
The Calendar year is divided into three semesters of four months each. The Fall semester begins on the last Tuesday in September. The Winter semester begins on the first Monday in February. The Summer semester begins on the first Monday in May.

*For catalogue or further information address*

**J. NEWTON ROE, Secretary**

**706 S. Lincoln St., Chicago, Ill.**

## Chicago Eye, Ear, Nose and Throat College

**A Post-Graduate School for Prac-  
titioners of Medicine**

**235 W. Washington Street  
Chicago, Ill.**

**Catalogue on Application**

Buy from our advertisers.  
If they don't give as good  
or better value than others,  
kick to us—

***We'll do the rest***

## Chicago Maternity Hospital and Training School for Nurses

**ACCOMMODATES 25 PATIENTS  
RATES: \$10.00 to \$25.00 PER WEEK**

Well infants cared for in nursery for \$5.00 per week.  
Training School for Obstetrical and Infants' nurses.

**Address**

**EFFA V. DAVIS, M.D., 2314 N. Clark St., Chicago**

## "BEVERLY FARM"

**— HOME AND SCHOOL —  
For Nervous and Backward Children**

Separate buildings for boys, girls and children under 10 years of age. Thirty-three years experience in this work. A brick school house and gymnasium. One hundred and seventy-five acres of land, forty of which has fine timber with log cabin.

Consultation at home if desired. Publicity avoided.  
Address all communications to

**W. H. C. SMITH, M. D., Superintendent  
Godfrey, Madison Co., Ill.**

*"Beverly Farm" was awarded a grand prize by the committee of  
awards of the Louisiana Purchase Exposition.*



## “Yes, the Doctor Will Be There in a Few Minutes—He Uses **Polarine**, the Perfect Lubricant”

FRICTION REDUCING MOTOR OIL

Polarine flows at zero and maintains the correct lubricating body at any motor speed or temperature.

Polarine covers even the remotest friction surface in your motor—minimizes friction and repairs, and increases the amount of power.

Polarine is produced scientifically and is of proven efficiency, as may be attested by approximately 450,000 motorists in the Middle West alone.

Order a half barrel today—it costs less per gallon that way than in smaller quantities.

**Standard Oil Co.**

*(Indiana)*

**Chicago, U. S. A.**

*Use Red Crown Gasoline and get more power, more speed, more miles per gallon.*





## INDEX TO ADVERTISERS

Abbott Laboratories.....	7
Accuracy Laboratories.....	11
Alexander, Dr. H. M., Co.....	9
A. Arend Drug Co.....	12
Armour & Co.....	32
Bellevue Sanitarium.....	20
Bevely Farm School.....	25
Bayer Company.....	8
Chicago College of Medicine and Surgery.....	25
Chicago, Eye, Nose & Throat College.....	25
Chicago Fresh Air Hospital.....	18
Chicago Laboratory.....	13
Chicago Laboratory of Surgical Technique.....	12
Chicago Maternity Hospital.....	25
Chicago Med. Soc. Milk Com.....	4
Chicago, Ottawa and Peoria.....	8
Chicago Pasteur Institute.....	12
Cincinnati Sanitarium.....	22
College of Medicine, Univ. of Ill.....	25
Cocroft, Susanna.....	30
Crittenton, Chas. N. Co.....	30
Edward Sanatorium.....	19
Fletcher's Sanatorium.....	21
Gradwohl Biological Laboratories.....	12
Harvey, G. F.....	17
Horlick's Malted Milk Co.....	2
Hygeia Hospital.....	20
Illinois Post Graduate School.....	24
Kenilworth Sanitarium.....	20
Lederle Antitoxin Laboratory.....	31
Medical Protective Co.....	11
Mead, Johnson & Co.....	4

Mellin's Food Co.....	6
Milwaukee Sanitarium.....	21
Mueller & Co., V.....	24
Mulford, H. K., & Co.....	10
Norbury Sanitarium.....	19
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Parke, Davis & Co.....	16
Pearson Home.....	22
Pennoyer Sanitarium.....	6
Peoria Mud Baths.....	22
Peoria Sanatorium.....	23
Petty & Wallace's Sanitarium.....	23
Phillips Co., Chas. H.....	28
Pitman-Moore Co.....	4
Pottenger Sanatorium.....	18
Pure Gluten Food Co.....	5
Quaker Oats Co.....	5, 29
Ransom Sanitarium.....	21
Saunders Co., W. B.....	front cover
Schmid Chemical Co.....	14
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Sherman, G. H., M. D.....	5
Standard Oil Co.....	3, 26
Storm, Katherine L., M. D.....	11
Sulphur Springs Sanitarium.....	23
Swan-Myers Co.....	14
Tilden Co., The.....	6
Waukesha Moor (Mud) Bath Co.....	22
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium.....	20

## BUYER'S INDEX

## ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D.....	11
--------------------------------	----

## AUTOMOBILES, ETC.

Goodyear Tire & Rubber Co.....	25
Standard Oil Co.....	3, 30

## FOOD

Arend-Adamick Koumyss.....	12
Certified Milk.....	4
Horlick's Malted Milk Co.....	2
Mead, Johnson & Co.....	6
Mellin's Food Co.....	6
Pure Gluten Food Co.....	5
Quaker Oats Co.....	5, 29

## HOSPITAL

Chicago Fresh Air Hospital.....	18
Chicago Maternity Hospital.....	25
Hygeia Hospital.....	20

## INVESTMENTS AND INSURANCE

Medical Protective Co.....	11
----------------------------	----

## LABORATORY

Abbott Laboratories.....	7
Accuracy Laboratories.....	11
Chicago Laboratory.....	13
Chicago Laboratory of Surgical Technique.....	12
Gradwohl Biological Laboratories.....	12
Swan-Myers Co.....	14

## MEDICAL BOOK PUBLISHERS

Saunders Co., W. B.....	front cover
-------------------------	-------------

## MEDICAL SCHOOLS

Chicago College of Medicine and Surgery.....	25
Chicago, Eye, Ear, Nose & Throat College.....	25
College of Medicine, Univ. of Ill.....	25
Illinois Post Graduate School.....	24

## MUD BATHS

Peoria Mud Baths.....	22
Waukesha Moor (Mud) Bath Co.....	22

## PHARMACEUTICALS

Abbott Laboratories.....	7
Alexander, Dr. H. M., Co.....	9
Armour & Co.....	32
Bayer Company.....	8
Crittenton, Chas. N. Co.....	30
Harvey, G. F.....	17
Hygeia Sanitarium.....	17
Kenilworth Sanitarium.....	20
Lederle Antitoxin Laboratory.....	31
Mead, Johnson & Co.....	4
Mulford, H. K., & Co.....	10
Parke, Davis & Co.....	16
Phillips Co., Chas. H.....	28
Pitman-Moore Co.....	4
Schmid Chemical Co.....	14
Sherman's Bacterins.....	5
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Swan-Myers Co.....	14
Tilden Co., The.....	6

## SANATORIA &amp; SANITARIA

Bellevue Sanitarium.....	20
Cincinnati Sanitarium.....	22
Edward Sanatorium.....	19
Fletcher's Sanatorium.....	21
Norbury Sanatorium.....	19
Milwaukee Sanitarium.....	21
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Pearson Home.....	22
Pennoyer Sanitarium.....	6
Peoria Sanitarium.....	23
Petty & Wallace's Sanitarium.....	23
Pottenger Sanatorium.....	18
Ransom Sanitarium.....	21
Sulphur Springs Sanitarium.....	23
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium.....	23

## SURGICAL INSTRUMENTS

Mueller & Co., V.....	24
-----------------------	----

IN PLACE OF OTHER ALKALIES USE

# Phillips' Milk of Magnesia

"THE PERFECT ANTACID"

For Correcting Hyperacid Conditions—Local or Systemic. Vehicle for Salicylates, Iodides, Balsams, Etc.

Of Advantage in Neutralizing the Acid of Cows' Milk for Infant and Invalid feeding.

## Phillips' Phospho-Muriate of Quinine

Compound

NON-ALCOHOLIC TONIC AND RECONSTRUCTIVE

With Marked Beneficial Action Upon the Nervous System. To be relied Upon Where a Deficiency of the Phosphates is Evident.

THE CHAS. H. PHILLIPS CHEMICAL CO.

NEW YORK

LONDON

### CONTENTS—Continued

#### EDITORIALS

Vermilion County Medical Society Honors Dr. Coolley....	52
Banquet to Dr. Whalen.....	52
The Wine of Cardui Suit.....	53
Outing at Starved Rock.....	53
Rush Alumni Honor Professor Haines.....	54
Tuberculosis Notes.....	55
Illinois State Board Examination.....	56
University of Illinois Announcement.....	56

#### PUBLIC HEALTH

Birth and Death Registration Increased.....	56
Typhoid Fever at Tuscola.....	57
State Troops Mobilized.....	58

#### AUTO SPARKS

Fuel Economizer.....	60
Starved Rock Outing.....	59

#### SOCIETY PROCEEDINGS

Cook County—Chicago Medical Society.....	61
Chicago Ophthalmological Society.....	61
Englewood Branch.....	73
Iroquois-Ford Counties.....	73
Macoupin County.....	74
Ogle County.....	74
Vermilion County.....	74
Personals.....	75
News.....	75
Marriages.....	78
Deaths.....	78
Book Notices.....	79



**COUNTY SOCIETIES—Continued.****Pope County**

J. A. Fisher, Pres.....Brownsville  
L. S. Barger, Secy.....Golconda

**Pulaski County**

J. F. Hagan, Pres.....Mound City  
W. R. Wesenberg, Secy.....Mound City

**Randolph County**

Wm. R. McKenzie, Pres.....Chester  
John P. Grimes, Secy.-Treas.....Menard

**Richland County**

A. T. Telford, Pres.....Olney  
E. H. Horner, Secy.....Olney

**Rock Island County**

Geo. A. Wiggins.....Milan  
A. E. Williams, Secy.....Rock Island

**St. Clair County**

B. H. Portuondo, Pres.....Belleville  
A. E. Hansing, Secy.....Belleville

**Saline County**

M. D. Impson, Pres.....Brushy  
E. W. Cummins, Secy.....Harrisburg

**Sangamon County**

Arthur E. Prince, Pres.....Springfield  
H. B. Henkel, Secy.....Springfield

**Schuyler County**

A. W. Ball, Pres.....Rushville  
J. C. Steiner, Secy.....Rushville

**Scott County**

J. W. Eckman, Pres.....Winchester  
H. H. Fletcher, Secy.....Winchester

**Shelby County**

F. A. Martin, Pres.....Tower Hill  
Frank P. Auld, Secy.....Shelbyville

**Stark County**

James R. Holgate, Pres.....Wyoming  
Clyde Berfield, Secy.....Toulon

**Stephenson County**

W. B. Peck, Pres.....Freeport  
N. C. Phillips, Secy.....Freeport

**Tazewell County**

H. L. Yoder.....Morton  
F. C. Gale, Secy.....Pekin

**Union County**

G. W. Marrow, Pres.....Anna  
E. V. Hale, Secy.....Anna

**Vermillion County**

A. E. Dale, Pres.....Danville  
O. H. Crist, Secy.....Danville

**Wabash County**

P. G. Manley, Pres.....Mt. Carmel  
A. A. Aukenbrandt, Secy.....Mt. Carmel

**Warren County**

Philo B. Conant, Pres.....Roseville  
H. M. Camp, Secy.....Monmouth

**Washington County**

D. S. Neer, Pres.....Beaucoup  
P. B. Rabenneck, Secy.....Nashville

**Wayne County**

T. J. Hilliard, Pres.....Fairfield  
Osstella F. Blakely, Secy.....Fairfield

**White County**

C. B. Staley, Pres.....Enfield  
John Niess, Secy.....Carmi

**Whiteside County**

W. H. Durkee, Pres.....Fulton  
H. N. Schmaling, Secy.....Fulton

**Will County**

A. L. Schreffler, Pres.....Joliet  
Marion K. Bowles, Secy.....Joliet

**Williamson County**

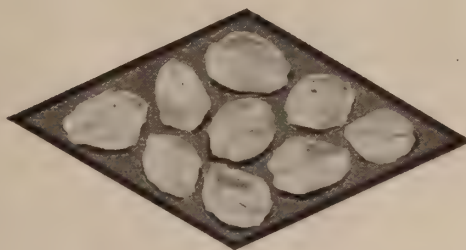
J. G. Parmley, Pres.....Marion  
H. A. Felts, Secy.....Marion

**Winnebago County**

D. B. Penniman, Pres.....Argyle  
C. M. Ranseen, Secy.-Treas.....Rockford

**Woodford County**

F. W. Nickel, Pres.....Minonk  
H. A. Millard, Secy.....Minonk



# Oat Flakes Like These

Form Quaker Oats.

All puny, starved grains are omitted. Two-thirds of the oats as they come to us are unfit for this premier brand.

Undeveloped oats, we argue, are unfit for human food. And they lack this tempting flavor.

Quaker Oats are always made of queen grains only. The grains are plump and full-grown. The flakes are large and luscious. Yet they cost no extra price.

We feel that you who advise on foods should know this.

# Quaker Oats

## The Luxury Dish

This is the leading oat food the world over, because of this extra quality. Even in Britain, the home of Scotch and Irish oats, Quaker is the largest-selling brand.

**Regular package 10c**

*Except in Far West and South*

**The Quaker Oats Company**

Chicago

(1261)

## READER!

are you buying your supplies from our advertisers?

Our advertising pages are your property as a member of the Illinois State Medical Society.

Advertisers will pay for space in proportion as you buy from them, and thus make the space valuable to them.

Order now, and write that you saw the "ad" in the JOURNAL.

## WANTED, FOR SALE, AND RENT DEPARTMENT

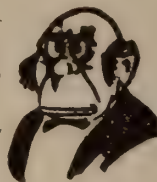
Advertisements under this heading cost one dollar for four lines or less, and 25 cents for each additional line, each insertion. Payable in advance. Line holds eight ordinary words.

### FOR SALE.

Hospital, fully equipped for 20 patients; the only hospital in city, population 15,000. All modern conveniences, a large field and an excellent proposition for a good man who is interested in surgery. Price reasonable and terms easy. Address communications to Eura Griggs, Marion, Ill.

I AM SORRY I  
did NOT advertise

—in the—  
ILLINOIS  
MEDICAL  
JOURNAL



## Doctor—

*Read carefully and  
learn what you  
will receive, if  
you join the  
Illinois  
State Medical  
Society*

### QUALIFICATIONS FOR MEMBERSHIP

Every registered physician residing in Illinois, as may be authorized by the State Society, who is of good moral and professional standing, and who does not claim to practice any exclusive system of medicine, shall be eligible for membership.

YOU get medico-legal protection, membership in your County Medical and Illinois State Medical Societies, and the Illinois Medical Journal. Membership in these makes you eligible to membership in the American Medical Association.

1. MEMBERSHIP IN THE ILLINOIS STATE MEDICAL SOCIETY. All members of a County Medical Society are *ipso facto* members of the State Society and receive all publications of the State Society without additional fees, dues or subscriptions. The Illinois State Medical Society is one of the greatest local medical organizations in the world. Affiliation and association with this large and representative body of men is of great value and importance to every physician.

2. MEDICAL DEFENSE. Out of your annual dues the trustees of your County Medical Society are required to turn \$1.00 over to the "medical defense committee" for the protection and defense of members of the society against whom suits for malpractice or damages may be brought. For years the Illinois State Medical Society has been meeting all expenses of such litigation—court costs, attorney's fees, costs of appeals, witness fees, the cost of record—no limitation being placed on the expense of an individual case.

This means protection against suits for damages for alleged malpractice, as well as attempted blackmail. This one feature alone is worth many times the cost of membership. Private defense companies are charging \$15.00 per year and upwards for the defense feature alone.

Come to the next meeting of the local society of the District in which you live and meet the other physicians of your neighborhood. Fill out the application blank on advertising page 4 and send it, together with membership fee, to the Secretary of your County Society, and thus secure the benefits mentioned.



# Hay Fever

Convincing Clinical Data Prove Value of

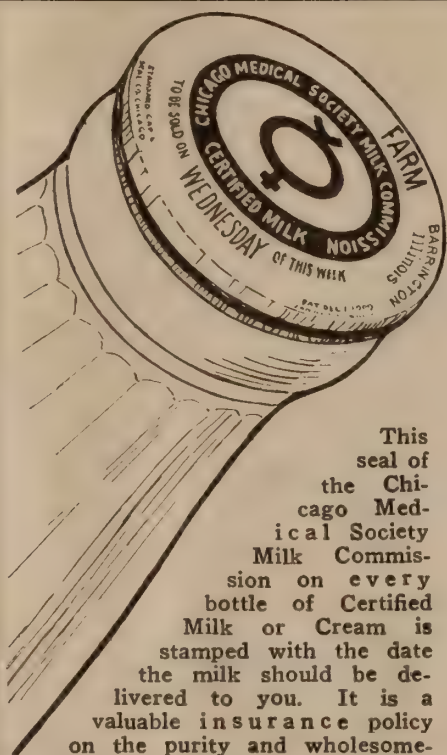
## Pollen Vaccine

**D**URING 1915, LEDERLE'S *Pollen Vaccine* was used by over 600 physicians for the prophylaxis and treatment of Hay Fever. The clinical data submitted to us show 83 *per cent favorable results* from Pollen Vaccine as a prophylactic against Hay Fever, and 89 *per cent favorable results* in the treatment of Hay Fever. Asthmatic symptoms were relieved in 84.2 per cent of the cases.

LEDERLE'S is a combined *Pollen Vaccine* containing pollen from all the common grasses, weeds and flowering plants which are known to be important in causing hay-fever in the spring and fall.

Booklet sent on request.

**Lederle Antitoxin Laboratories**  
**Schieffelin & Co., Distributors**  
**New York**



This seal of the Chicago Medical Society Milk Commission on every bottle of Certified Milk or Cream is stamped with the date the milk should be delivered to you. It is a valuable insurance policy on the purity and wholesomeness of your milk.

# Certified Milk Is PURE Milk

and every drop is clean.

Certified to by the Chicago Medical Society Milk Commission, under whose rigid inspection every drop of Certified Milk is produced.

Clean and proper feed, clean cows, clean milkers, clean barns, sterilized bottles sealed and kept in ice at 45° until delivered at your door. **EVERY STEP OF EVERY DROP** of Certified Milk keeps it clean and pure from the cow's feed right up to your door.

Nothing is done to Certified Milk except keep it pure. It is never mixed with other milk—it is never treated in any way. It is the product of pure food fed to healthy cows, sealed and packed in ice and delivered at your door the same day or the next.

## Certified Milk



*Is Safe for Family Use.*  
*Is Safe for Infants and Invalids.*  
*Is Safe for Everybody All the Time.*  
*Costs More, but is worth it.*



# Illinois Medical Journal

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Vol. XXX, No. 2

CHICAGO, AUGUST, 1916

\$2.00 a Year

## CONTENTS

### ORIGINAL ARTICLES

	PAGE
Medical Legislation—Recent and Contemplated. <i>C. St. Clair Drake, M. D., Springfield, Ill.</i> .....	81
Surgery of the Colon as Applied to Intestinal Stasis. <i>A. J. Ochsner, M. D., Chicago, Ill.</i> .....	86
Traumatic Hernia, So-Called. <i>C. W. Hopkins, M. D., Chicago, Ill.</i> .....	89
Appendicitis from the Standpoint of the Ordinary Surgeon, <i>Clark A. Buswell, M. D., Chicago</i> .....	94
Chronic Appendicitis from the Standpoint of the Internist. <i>J. C. Friedman, M. D., Chicago</i> .....	100

	PAGE
Surgery from the Patient's Viewpoint. <i>Clifford U. Collins, M. D., Peoria, Ill.</i> .....	105
A typical Form of Splenic Disease. <i>Allen B. Kanavel, M. D., Chicago</i> .....	110
Splenectomy in Pernicious Anemia. <i>P. M. Parrish, M. D., Decatur, Ill.</i> .....	112
Splenectomy. <i>Maurice L. Goodkind, M. D., Chicago</i> ....	115
Splenectomy. <i>Nelson Mortimer Percy, M. D., Chicago</i> ..	118
The Preparation and Use of Vaccines in Chronic Bacterial Localizations. <i>Adolph Gehrman, M. D., Chicago</i> ....	120

(Continued on adv. page 28)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879.

## JUST ISSUED

# Elsberg's Surgery of Spinal Cord

There is no other book published like this by Dr. Elsberg. It gives you in clear definite language the diagnosis and treatment of all surgical diseases of the spinal cord and its membranes, illustrating each operation with original pictures. Because it goes so thoroughly into symptomatology, diagnosis, and indications for operation this work appeals as strongly to the general practitioner and neurologist as to the surgeon.

The first part of the work is devoted to anatomy and physiology of the spinal cord, and to the symptomatology of surgical spinal diseases.

The second part takes up operations upon the spine, the cord, and nerve-roots.

The third part is given over to surgical diseases of the cord and its membranes—their diagnosis and treatment.

Included also are chapters on hematomyelia and spinal gliosis, because in these diseases much harm is done to the fiber tracts by compression. There is also a chapter on *x*-rays in spinal diseases.

Octavo of 330 pages, with 153 illustrations, 3 in colors. By CHARLES A. ELSBERG, M.D., Professor of Clinical Surgery, New York University and Bellevue Hospital Medical School. Cloth, \$5.00 net. Half Morocco, \$6.50 net.

W. B. SAUNDERS COMPANY

Philadelphia and London

This Issue 6,600 Copies

THE PHYSICIAN CAN RELY UPON

# **HORLICK'S**

## **The Original Malted Milk**

**as a protection against unsanitary milk**

Owing to the facilities possessed by the company to obtain clean milk throughout the year of uniform quality, as evidenced by the careful selection of herds and stringent regulations that are in force in all of their dairies.

**HORLICK'S MALTED MILK is secure from contamination, is put up in sterilized containers, is constant in composition, and is easily kept in the any home in the hottest weather without deteriorating.**

*It makes possible the carrying-out of a progressive method of feeding that conserves the best interests of the weakest baby*

See that your patients get "HORLICK'S" the original and thus avoid substitution

**HORLICK'S MALTED MILK COMPANY**  
Racine, Wisconsin

## **YOUR hay-fever patients**

may respond to chlorid calcium quite as well as did this case (condensed from Dr. Wilson's report in the J. A. M. A. of March 4, 1916.)

"Miss M. T., 21, had had hay-fever since childhood from May to frost. Prescribed calcium chlorid 1 gm. t. i. d., July 2d. July 28, greatly relieved. Aug. 13, no hay-fever symptoms left and none recurred during the rest of the season."

"Some hay-fever patients taking not less than 3 gm. of calcium chlorid daily, even for a short time, are practically relieved from all hay-fever symptoms".

**BUT—unless you use PURE CHLORID CALCIUM your patient's stomach is liable to revolt.**

**SHARP & DOHME**  
**"Quality Products"**  
Baltimore, Md.



# Stanolind

Trade-Mark Reg. U. S. Pat. Off.

## Liquid Paraffin

(Medium Heavy)

*Tasteless—Odorless—Colorless*

### Is Neither Absorbed Nor Digested

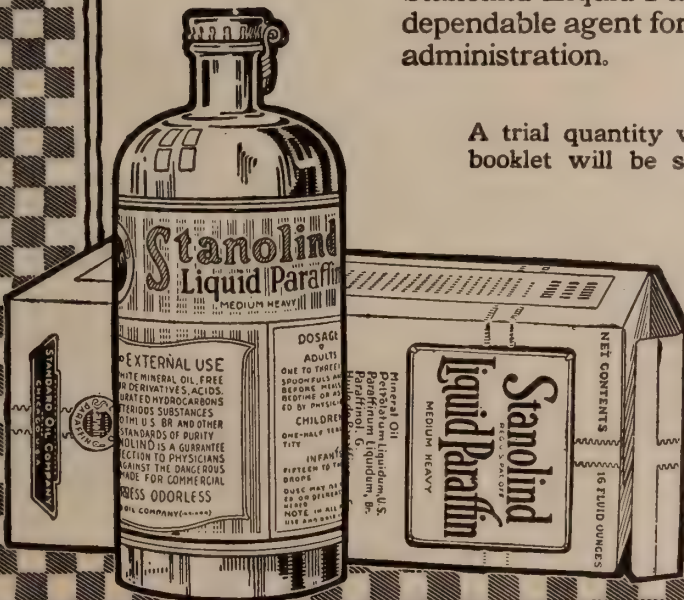
The fact that it is not absorbed by the epithelial cells and consequently not excreted through the milk, makes it a most satisfactory agent for nursing mothers.

Furthermore, Stanolind Liquid Paraffin removes the intestinal toxins, that would otherwise be absorbed into the blood.

Stanolind Liquid Paraffin acts on the whole intestinal canal, reaching the rectum intact, differing from a vegetable oil, the larger portion of which is digested and absorbed.

Stanolind Liquid Paraffin is a safe and dependable agent for continued internal administration.

A trial quantity with informative booklet will be sent on request.



Standard Oil  
Company  
(Indiana)

72 W. Adams St.  
Chicago, U. S. A.

31

## Sugar is an Extremely Important Constituent in Infant Feeding BUT

## YOU MUST SELECT THE RIGHT SUGAR

A large part of the troubles of infant feeding has been shown to be due to the ingestion of milk sugar or cane sugar.

## MEAD'S DEXTRI-MALTOSE

from the standpoint of DIGESTIBILITY and ASSIMILABILITY represents the properly balanced carbohydrate. Composition—Maltose 52%, Dextrin 41.7%, Sodium Chloride 2%.

Administration—1½ oz. Dextri-Maltose (2 heaping tablespoonfuls) to any milk and water mixtures suited to age and weight.

Literature and Samples on Request

**Mead Johnson & Co.**

**Evansville, Ind.**

There are many grades of crude drugs  
offered for sale on the drug market

*But—*

There is only one "best"

It takes the best grade of crude drug, the highest grade of workmanship, together with the most accurate and "time-tried" methods to make



**PITMAN-MOORE COMPANY, Chemists**  
INDIANAPOLIS, INDIANA



## Hoyt's Gum Gluten DIABETIC FOODS

Supplies the much-needed variety to be used in place of the forbidden wheat products.

You will find from our analyses that you can regulate your patient's diet to your entire satisfaction by prescribing Hoyt's Gum Gluten.

Send for analyses, Starch  
Restricted Diet, etc.

**The Pure Gluten Food Company**  
90 West Broadway NEW YORK CITY

## Hay Fever

LOGICALLY TREATED

WITH

## SHERMAN'S BACTERINS

Pollen irritation favors the development of pyogenic bacteria in the respiratory tract which then become a primary factor of the disease. Experience shows that the immunizing influence of an appropriate bacterin will either cure the disease or so modify it that it causes but little distress.

WRITE OR LITERATURE

**G. H. SHERMAN, M. D.**  
DETROIT, MICHIGAN



## Flake Bran Made a Luxury

In Pettijohn's, under proper advice, we have accomplished two results that you want.

We make bran efficient.

And we make it likable.

We take a food which has long been a favorite morning dainty. Into that food we roll unground bran—25 per cent.

We use soft wheat bran, which is tender. We use it in flake form, which is efficient.

Pettijohn's is a welcome food—a food of which folks don't tire. It will appeal to you when you test it more than any other form of bran food.

## *Pettijohn's*

*Rolled Wheat with Bran Flakes*

This is soft, flavory wheat rolled into luscious flakes hiding 25 per cent of unground bran. Can be cooked in 20 minutes. 15c per package.

**Pettijohn's Flour** is another bran product. It is 75 per cent fine patent flour mixed with bran flakes—25 per cent. To be used like Graham flour in any recipe. 25c per large package.

**The Quaker Oats Company**

Chicago

(1374)

1848

**THE TILDEN COMPANY**

1916

PREPARATIONS ARE THE STANDARD OF QUALITY

**SINCE 1848**

NEW LEBANON, N. Y.

ST. LOUIS, MO.

1848

1916

**THE Pennoyer**  
Established 1867  
 Kenosha, Wis., between Chicago and Milwaukee on the North-Western R. R. Fine Health Resort and Sanitarium on Lake Michigan. Beautiful environment—a mile of lake shore. For illustrated prospectus address N. A. Pennoyer, M. D.

THIS SPACE TO LET

**DOCTOR:** It is our purpose to give to you on your orders, the best pharmaceuticals that the highest grade of crude drugs, pure chemicals and skilled workmanship, under experienced supervision, can produce.

When our man calls upon you, give him a few moments of your time. He will tell you more about what we are trying to do.

**G. D. SEARLE & CO.** Mfrs. of **Fine Pharmaceuticals and Hypodermic Tablets**  
 215-217-219 W. Ohio St. CHICAGO Telephone North 1704

**Mellin's Food** is successfully used  
 in

**Summer Diarrhea** for it furnishes

immediately available nutrition well suited

to spare the body-protein.

to prevent a rapid loss of weight.

to resist the activity of putrefactive bacteria.

to favor a retention of fluids and salts in the  
 body tissues.

**MELLIN'S FOOD COMPANY,**

**BOSTON, MASS.**



PHARMACEUTICALS  
ALKALOIDS  
CHEMICALS  
SERUMS VACCINES  
PRICE LIST  
ON REQUEST

*Made in  
America*  
*Abbott*  
TRADE MARK

**THE ABBOTT LABORATORIES**  
CHICAGO = NEW YORK  
SEATTLE • SAN FRANCISCO • TORONTO  
LOS ANGELES • BOSTON (THE METCALF CO.) • BOMBAY



**Bureau of Chemistry, U. S. Department of Agriculture:**

"The spurious aspirin is a mixture of either calcium phosphate and starch, cream of tartar and citric acid with some alum; or milk sugar, starch and calcium acid phosphate."—  
(From N. Y. Department of Health "Weekly Bulletin", Nov. 6, 1915)

By Specifying

**Bayer-Tablets**

OF

**Aspirin**

(5 grs. each)

You Avoid Counterfeits

The trade-mark "Aspirin" (Reg. U. S. Pat. Office) is a guarantee that the monoaceticacidester of salicylic acid in these tablets is of the reliable Bayer manufacture.

**Be Sure of Your Aspirin**

"Recent seizures in various cities of the country of numerous quantities of spurious aspirin make it important that the druggist should assure himself in all cases of the reliability of the source of his supply."—**Pacific Drug Review**, Feb., 1916.

FORM OF APPLICATION FOR ADMISSION TO ACTIVE MEMBERSHIP IN  
.....COUNTY MEDICAL SOCIETY

Chicago, Ill., .....

I hereby make application for active membership in the.....County  
Medical Society and beg to submit the following qualifications:

[Here state medical schools attended, with diplomas and licenses to practice held.]  
[PROPER DATE OF EACH]

.....  
.....  
.....

[State where hospital experience and post-graduate study and research work; College or school and hos-  
pital appointments, past and present; Membership in medical societies, past and present; Location of prac-  
tice, past and present, with approximate dates showing time spent in each place.]

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

I agree not to practice any exclusive system of medicine.

Signature .....

Residence .....

**ENDORSEMENT**

[Endorsers must reside in the same district with applicant.]

Date.....

This Certifies That I have known the above signed applicant .....  
..... M.D., for.....years; that I  
believe h.....to be a person of good moral and professional character and entirely worthy  
of confidence. I hereby recommend h.....for active membership in the.....  
COUNTY MEDICAL SOCIETY.

..... M.D.

..... P. O. Address

..... M.D.

..... P. O. Address

Approved by Membership Committee:

.....  
.....  
.....

Amount Paid.....

No.....

Membership Fee after July 1 will be at the rate of 50 cents per month until January 1.



# ALEXANDER'S TYPHOID VACCINE

---

THE value of this product in the prevention of Typhoid Fever is recognized by all authorities.

The success attained by its use in the United States Army places it above all other methods for the prevention of Typhoid Fever. Major F. F. Russell reports only one doubtful case among the vaccinated men in the Army from December, 1912, to August, 1913.

ALEXANDER'S TYPHOID VACCINE is prepared and standardized by scientists trained in this particular line of work.

The contract for supplying the Illinois State Board of Health has been awarded to the ALEXANDER Laboratories.

**DR. H. M. ALEXANDER & CO.**  
MARIETTA, PA.

*Trade Supplied by*

**JOHN WYETH & BROTHER**  
174 West Lake Street  
CHICAGO, ILL.

## THE ONLY WINNER YET



THE BELLIGERENTS ARE BEGINNING TO SEE IT.

## READER!

are you buying your supplies from our advertisers?

Our advertising pages are your property as a member of the Illinois State Medical Society. Advertisers will pay for space in proportion as you buy from them, and thus make the space valuable to them.

Order now, and write that you saw the "ad" in the JOURNAL.



## WASSERMANN TEST \$5.00

All Serological Tests \$5.00. Pathological Examination of Tissue, \$5.00. Autogenous Vaccines, \$5.00. Sputum, Smears, Pus, etc., \$1.00. Urinalysis, Complete Chemical and Microscopical, \$1.50. All other work in keeping with the above low prices. Examinations performed by experts in their respective fields.



Main Laboratory

## We Analyze Everything

Write for our fee table with instructions for sending specimens. Containers and culture media on request.

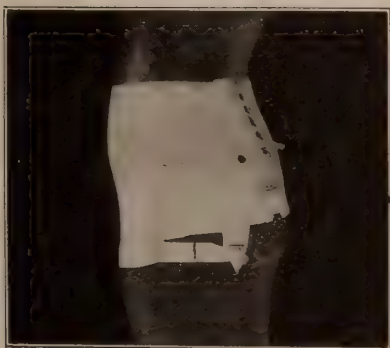
### ACCURACY LABORATORIES

1724-1726 W. Madison Street, CHICAGO, ILL.

Laboratory Instruction Given to Physicians

## The STORM Binder and Abdominal Supporter

PATENTED



### SACRO-ILIAC BELT

No Whalebones. No Rubber Elastic.  
Washable as Underwear

High and Low Operations, Hernia,  
Relaxed Sacro-iliac Articulations,  
Floating Kidney, Obesity, Preg-  
nancy, Ptosis, Pertussis, etc.

Send for illustrated folder and Testimonials of Physicians.  
Mail Orders filled within Twenty-four Hours.

KATHERINE L. STORM, M. D.  
1541 Diamond St., PHILADELPHIA, PA.

## 50% Better Prevention Defense Indemnity

1. All claims or suits for alleged civil malpractice, error or mistake, for which our contract holder,
  2. Or his estate is sued, whether the act or omission was his own
  3. Or that of any other person (not necessarily an assistant or agent),
  4. All such claims arising in suits involving the collection of professional fees,
  5. All claims arising in autopsies, inquests and in the prescribing and handling of drugs and medicines.
  6. Defense through the court of last resort and until all legal remedies are exhausted.
  7. Without limit as to amount expended.
  8. You have a voice in the selection of local counsel.
  9. If we lose, we pay to amount specified, in addition to the unlimited defense.
  10. The only contract containing all the above features and which is protection per se.
- A Sample Upon Request

The  
MEDICAL PROTECTIVE COMPANY  
of Ft. Wayne, Indiana.

Professional  
Protection, Exclusively

We Now Have a

## Department of PATHOLOGICAL CHEMISTRY

especially equipped to make all the newer **CHEMICAL TESTS OF BLOOD AND URINE.** This work has been carried out by **Folin and Denis, Benedict, Myers and Fine,** and has proven of great benefit in the diagnosis and treatment of **Nephritis, Diabetes, Rheumatism, and Gout.** These tests show by examination of the blood what the kidneys **do not throw out,** and by urinary examination **what they excrete.** They are qualitative and quantitative, estimating exactly the amount of urea and uric acid, creatinine, total nitrogen, and sugar, in both blood and urine.

Full particulars given on request with containers and directions for sending in blood.

### Complete Chemical

Blood Test - - \$10.00

### Complete Urinary Test

as above - - 5.00

### Test for CO<sub>2</sub> to determine

Acidosis - - 5.00

### All our Serological Tests are 5.00

(We control all our Wassermann work by the Hecht - Weinberg - Gradwohl Reaction.)

Tissues - - - 5.00

### Pasteur Treatment

(18 ampoules with glass syringe) 50.00

N. B.—Note our new address. We are in new and absolutely modern equipped-to-the-minute laboratories.

## Gradwohl Biological Laboratories

928 N. Grand Avenue

ST. LOUIS, MO.

R. B. H. GRADWOHL, M. D., Director

## Chicago Pasteur Institute

25th YEAR

812 NORTH DEARBORN STREET

CHICAGO

FOR THE PREVENTIVE TREATMENT OF HYDROPHOBIA

ANTONIO LAGORIO, M.D. LL.D., Medical Director

G. B. BRUNO, M.D., Associate Director

FRANK A. LAGORIO, M.D., Associate Director

**Announcement**—Since October, 1910, this institute has taken an advanced progressive step in abandoning the old methods now in vogue, discarding the cords treatment, and in adopting instead the use of the brain substance properly treated and attenuated and rendered safe by having its virulence destroyed. Telephone Superior 973.

N. B.—We have no branches and the use of our name is unauthorized.

## AREND-ADAMICK DOUBLE KUMYSS

**AN IDEAL FOOD** for all conditions of enfeebled digestive power from any cause, malnutrition in infants or the aged—a sustaining diet during the course of acute infectious diseases and gastro-intestinal disorders  
**EASILY ASSIMILATED** and contains the elements essential for the nourishment of the organism.  
**A VALUABLE NUTRIENT** in Typhoid, Enteritis, Marasmus, Acute fevers, Gastric Ulcer, Anemia, Vomiting of Pregnancy, Asthenic fevers and during Convalescence.

Its taste is pleasantly acidulous—its enticing flavor is unusually acceptable to the capricious appetite of the sick—it may be used for days as an exclusive diet.

Booklet giving instructions and interesting clinical report, also price list, free on request.

A. AREND DRUG COMPANY

Manufacturing Chemists

182 West Madison Street, Chicago





# CHICAGO LABORATORY

CLINICAL ANALYTICAL

Marshall Field Annex Bldg.

Established 1904

25 EAST WASHINGTON STREET

Telephone Randolph 3610

CHICAGO

## Wassermann Test

Doctor:

It is extremely important, even without a clinical history, to eliminate the possibility of specific infection in obscure cases.

The Wassermann and Noguchi systems are both used on all our work to ensure a greater degree of accuracy.

Prominent neurologists emphasize the importance of testing both blood and spinal fluid in cases of doubtful diagnosis, since the spinal fluid often shows positive reaction where the blood serum may be negative.

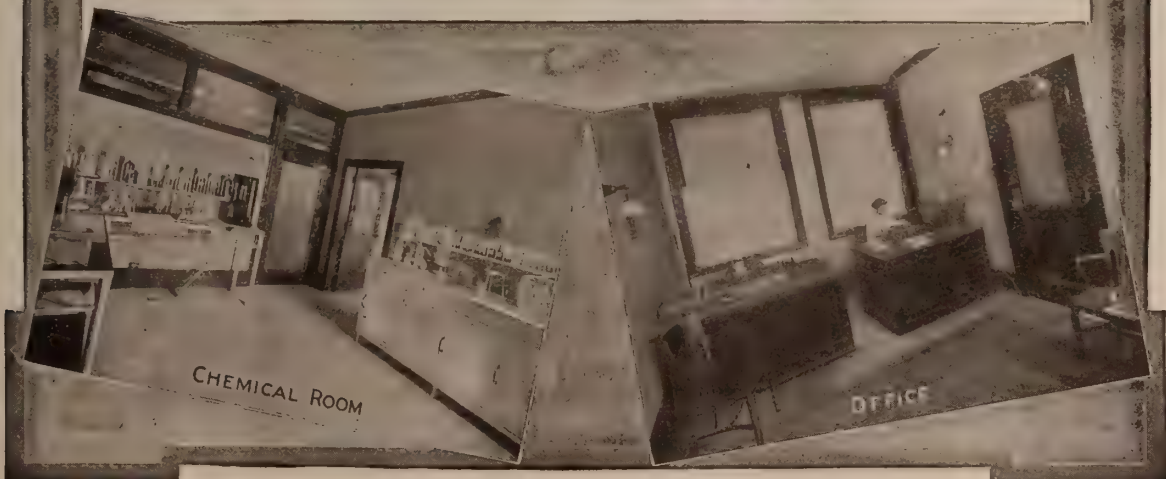
*Sterile containers on request*

*Our names and reputations stand back of our work*

RALPH W. WEBSTER, M.D., Ph.D. Director of Chemical Department

THOMAS L. DAGG, M.D., Director of Pathological Department

C. CHURCHILL CROY, M.D., Director of Bacteriological Department





MAKERS OF MODERN PHARMACEUTICALS  
REQUESTS A TRIAL OF  
**PILL CHOLEOLITHINE**  
(Schmidt—S. C. Orange)

Doctor, if you are tired of experimenting with the various old time formulas of "liver pills," "liver salts," and nauseating liquid mixtures, this product will surely appeal to you.

R Acid Sodium oleate..... 1 gr.  
True Salicylic acid..... 1 gr.  
Sodium choleate..... 1 gr.  
Extract of Cascara..... ½ gr.  
Menthol ..... 1/10 gr.

Nine years of unqualified success have proven to the profession that this formula is

**Reliable, Safe, Efficient**

Same old price, no advancement on account of war

O. F. Schmidt Chemical Co. Chicago Branch, 180 N. Market St. Phone Franklin 4346  
or Physician's Supply and Drug Co., 425 Honore St., Chicago

# SWAN'S BULGARIAN BACILLUS

Dead  
Cultures  
Are  
Worthless.



We  
Supply  
Pure  
Living  
Organisms

THE investigation of Dr. Arthur J. Bendick, J. A. M. A., Vol. LXIV, showed that few of the preparations of Bulgarian Bacillus on the market actually contain living organisms. This product should not be carried in stock by the physician, but should be ordered as wanted.

Direct from our Laboratories—complete directions with each package

**SWAN-MYERS COMPANY**

**Indianapolis, Ind., U. S. A.**



# ILLINOIS STATE MEDICAL SOCIETY

## SECTION OFFICERS AND COMMITTEES

**SECTION ONE**  
 Frederick Tice, Chairman.....Chicago  
 C. Martin Wood, Secretary.....Decatur

**SECTION TWO**  
 James H. Finch, Chairman.....Champaign  
 John S. Nagel, Secretary.....Springfield

**SECRETARY'S CONFERENCE**  
 H. B. Henkel, Chairman.....Springfield

Ossella Blakely, Secretary.....Fairfield

**SECTION ON PUBLIC HEALTH AND HYGIENE**  
 G. F. Ruediger, Chairman.....La Salle  
 Grace H. Campbell.....Chicago

**SECTION ON EYE, EAR, NOSE AND THROAT**  
 R. J. Tivnen, Chairman.....Chicago  
 J. Sheldon Clark, Secretary.....Freeport

## COUNTY SOCIETIES

This list is corrected in accordance with the best information obtainable at the date of going to press.  
 County Secretaries are requested to notify The Journal of any changes or errors.

**Adams County**  
 Dan G. Stine, Pres.....Quincy  
 Elizabeth B. Ball, Secy.....Quincy

**Alexander County**  
 W. F. Grinstead, Pres.....Cairo  
 H. A. Davis, Secy-Treas.....Cairo

**Bond County**  
 W. T. Easley, Pres.....Greenville  
 J. C. Wilson, Secy.....Greenville

**Boone County**  
 Geo. Markley, Pres.....Poplar Grove  
 H. E. Delavergne, Secy.....Belvidere

**Brown County**  
 D. R. Peters, Pres.....Timewell  
 E. C. Allworth, Secy-Treas.....Mt. Sterling

**Bureau County**  
 C. C. Barrett, Pres.....Princeton  
 M. A. Nix, Secy.....Princeton

**Calhoun County**  
 W. A. Skeel, Pres.....Kampsville  
 J. H. Peisker, Secy.....Hardin

**Carroll County**  
 W. W. McGrath, Pres.....Savanna  
 R. B. Rice, Secy-Treas.....Mt. Carroll

**Cass County**  
 C. E. Soule, Pres.....Beardstown  
 T. G. Charles, Secy.....Beardstown

**Champaign County**  
 J. H. Finch, Pres.....Champaign  
 Wm. V. Secker, Secy.....Champaign

**Christian County**  
 R. C. Danford, Pres.....Pana  
 S. B. Herdman, Secy.....Taylorville

**Clark County**  
 S. W. Weir, Pres.....West Union  
 S. C. Bradley, Secy.....Marshall

**Clay County**  
 C. E. Duncan, Pres.....Flora  
 R. D. Finch, Secy.....Flora

**Clinton County**  
 J. A. Bauer, Pres.....Germantown  
 J. Q. Roane, Secy.....Carlyle

**Coles County**  
 Edmund Summers, Pres.....Mattoon  
 R. H. Craig, Secy.....Charleston

**Cook County**  
 Chas. J. Whalen, Pres.....Chicago  
 C. E. Humiston, Secy.....Chicago

**Crawford County**  
 A. G. Brooks, Pres.....Stoy  
 C. E. Price, Secy.....Robinson

**Cumberland County**  
 N. J. Hauton, Pres.....Greenup

**DeKalb County**  
 L. E. Barton, Pres.....Malta  
 J. B. Hagey, Secy.....DePalb

**De Witt County**  
 J. C. Myers, Pres.....Clinton  
 Charles W. Carter, Secy.....Clinton

**Douglas County**  
 I. N. C. McKinney, Pres.....Murdock  
 Walter C. Blaine, Secy.....Tuscola

**Du Page County**  
 (Affiliated with Cook County)

**Edgar County**  
 Wm. A. Buchanan, Pres.....Paris  
 George H. Hunt, Secy.....Paris

**Edwards County**  
 C. S. Brannen, Pres.....Albion  
 W. E. Buxton, Secy.....West Salem

**Effingham County**  
 Geo. Haumesser, Pres.....Effingham  
 F. N. A. Hoffman, Secy.....Effingham

**Fayette County**  
 A. E. Greer, Pres.....Brownstown  
 A. R. Whitefort, Secy.....St. Elmo

**Franklin County**  
 Wm. H. Smith, Pres.....Benton  
 Edgar Austin, Secy.....Benton

**Fulton County**  
 C. N. Allison, Pres.....Canton  
 D. S. Ray, Secy-Treas.....Cuba

**Gallatin County**  
 J. W. Bowling, Pres.....Shawneetown  
 A. B. Capel, Secy.....Shawneetown

**Greene County**  
 C. R. Thomas, Pres.....Roodhouse  
 H. A. Chapin, Secy.....White Hall

**Grundy County**  
 Roscoe Whitman, Pres.....Morris  
 F. C. Bowker, Secy.....Morris

**Hamilton County**  
 P. M. Nation, Pres.....McLeansboro  
 I. M. Asbury, Secy.....McLeansboro

**Hancock County**  
 Blair Kelley, Pres.....Ferris  
 S. M. Parr, Secy.....Carthage

**Hardin County**  
 W. J. J. Paris, Pres.....Rosiclare  
 F. A. Jones, Secy.....Rosiclare

**Henderson County**  
 W. J. Emerson, Pres.....Carman  
 I. F. Harter, Secy.....Stronghurst

**Henry County**  
 Chas. F. Young, Pres.....Geneseo  
 P. J. McDermott, Secy.....Kewanee

**Iroquois-Ford District**  
 Martha Anderson, Pres.....Roberts  
 D. W. Miller, Secy.....Gilman

**Jackson County**  
 Harriet N. Daniel, Pres.....Murphysboro  
 C. M. Thompson, Secy.....Makanda

**Jasper County**  
 W. E. Franke, Pres.....Newton  
 James P. Prestley, Secy-Treas.....Newton

**Jefferson County**  
 Todd P. Ward, Pres.....Mt. Vernon  
 Andy Hall, Secy.....Mt. Vernon

**Jersey County**  
 A. A. Barnett, Pres.....Jerseyville  
 H. R. Bohannon, Secy.....Jerseyville

**Jo Daviess County**  
 A. T. Nadig, Pres.....Elizabeth  
 T. J. Stafford, Secy.....Stockton

**Johnson County**  
 C. D. Nobles, Pres.....Buncombe  
 H. W. Walker, Secy.....Grantsburg

**Kane County**  
 W. H. Schwingel, Pres.....Aurora  
 Robt. S. Denney, Secy-Treas.....Aurora

**Kankakee County**  
 Joseph A. Guertin, Pres.....Kankakee  
 C. F. Smith, Secy.....Kankakee

**Kendall County**  
 R. A. Schaefer, Pres.....Plano  
 Robt. McClelland, Secy.....Yorkville

**Knox County**  
 A. C. Keener, Pres.....Altona  
 G. S. Bower, Secy.....Galesburg

**Lake County**  
 John P. O'Neil, Pres.....Highland Park  
 C. S. Ambrose, Secy-Treas.....Waukegan

**La Salle County**  
 R. C. Fullenweider, Pres.....La Salle  
 E. E. Perisho, Secy.....Streator

(Continued on page 17)

# TYPHOID PHYLACOGEN

in the opinion of many competent  
clinicians, constitutes

**THE BEST TREATMENT  
FOR TYPHOID FEVER.**

Supplied in bulbs of 10 Cc., one in a carton.

Literature to physicians on request.

**PARKE, DAVIS & CO.**  
DETROIT, MICHIGAN.



# Substantial Aids in Gynecological Affections

The **ONLY**  
Electro-  
Colloidal  
Iodine.  
Non-irritating,  
Non-escharotic,  
Diffusible

## IODÉOL·OVULES

## ·IODAGOL·

Metritis,  
Vaginitis,  
Cervical  
Ulcerations,  
Gonorrhea,  
Orchitis.

When Ordering,  
Specify Exact  
Form Needed:

**IODÉOL:** 1 cc.  
Ampoules (20%  
susp.) for intra-  
muscular injection;  
4-grain Capsules  
(25% susp.—  
internal); 15½-  
gm. and 45-gm.  
Vials (50% susp.—  
external);  
Ovules (25% susp.—  
gynecological).  
**IODAGOL:** 2 cc.  
Ampoules (25%  
susp.) and Vials  
of 20-gm. and 45-  
gm. (25% susp.)  
for urethral injection.  
**IODAGOL DRES-  
SING:** Vials of  
20-gm. and 45-  
gm. (25% susp.)  
for wounds and  
open surfaces.

Iodéol Ovules for local treatment, each ovule containing 22 grains electro-colloidal iodine in a glycerin-gelatin base.

Iodagol for irrigations, urethral injections and dressings. A 25% suspension of electro-colloidal iodine in an oily vehicle. Electro-colloidal iodine is rapidly diffusible and positively free from all tendency to irritate or excoriate, and may be used with relative impunity.

*"I know of no other single agent that is so valuable as iodine in the treatment of gonorrhea in the female," says an authority.*

Send to Levy or Harvey for literature.

Send your address on a postcard and it will be placed on the complimentary mailing list of the new medical quarterly, "ELECTRO-COLLOIDAL IODINE THERAPY," keeping you informed of the most approved modern practice in this important field.



### COUNTY SOCIETIES—Continued

**Lawrence County**  
E. M. Cooley, Pres.....Lawrenceville  
Thos. Kirkwood, Secy.....Lawrenceville

**Lee County**  
Chas. A. Kost, Pres.....Dixon  
Edmund B. Owens, Secy.....Dixon

**Livingston County**  
A. B. Richardson, Pres.....Emington  
John Ross, Secy.....Pontiac

**Logan County**  
W. W. Coleman, Pres.....Lincoln  
H. S. Oyler, Secy.....Lincoln

**McDonough County**  
E. R. Miner, Pres.....Macomb  
Geo. S. Duntley, Secy.....Bushnell

**McHenry County**  
C. W. Goddard, Pres.....Harvard  
N. L. Seelye, Secy.....Harvard

**McLean County**  
Edwin P. Sloan, Pres.....Bloomington  
Thos. D. Cantrell, Secy.....Bloomington

**Macon County**  
M. P. Parish, Pres.....Decatur  
F. E. Smith, Secy.....Decatur

**Macoupin County**  
M. McMahan, Pres.....Palmyra  
T. D. Doan, Secy.....Scottville

**Madison County**  
R. D. Luster, Pres.....Granite City  
E. W. Fliegenbaum, Secy.....Edwardsville

**Marion County**  
G. M. Gimbill, Pres.....Centralia  
S. A. Smith, Secy.....Odin

**Marshall-Futnam County**  
R. R. Eddington, Pres.....Lacon  
E. S. Gillespie, Secy.....Wenona

**Mason County**  
H. O. Rogier, Pres.....Mason City  
W. R. Grant, Secy.....Easton

**Massac County**  
J. A. Orr, Pres.....Metropolis  
J. A. Helm, Secy.....Metropolis

**Menard County**  
W. A. Mudd, Pres.....Athens  
L. E. Orr, Secy.....Tallula

**Mercer County**  
F. J. Rathbun, Pres.....New Windsor  
A. N. Mackey, Secy.....Aledo

**Monroe County**  
S. Kohlenbach, Pres.....Columbia  
L. Adelsberger, Secy.....Waterloo

**Montgomery County**  
Z. V. Kimball, Pres.....Hillsboro  
H. F. Bennett, Secy.....Litchfield

**Morgan County**  
T. O. Hardesty, Pres.....Jacksonville  
T. G. McLin, Secy.....Jacksonville

**Moultrie County**  
W. P. Davidson, Pres.....Sullivan  
C. W. Taylor, Secy.....Bethany

**Ogle County**  
L. M. Griffin, Pres.....Polo  
J. T. Kretsinger, Secy.....Leaf River

**Peoria City Medical Society**  
C. D. Thomas, Pres.....Peoria  
E. W. Oliver, Secy.....Peoria

**Perry County**  
A. W. Daggett, Pres.....Du Quoin  
J. D. Byrne, Secy.....Du Quoin

**Platt County**  
W. G. McPharson, Pres.....Bement  
B. L. Barker, Secy.....Monticello

**Pike County**  
R. P. Wells, Pres.....Pleasant Hill  
W. E. Shastid, Secy.....Pittsfield

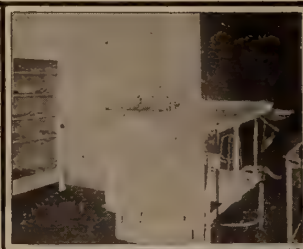
(Continued on page 28)



## THE OTTAWA TUBERCULOSIS COLONY

OTTAWA, ILL.

is devoid of the "institutional atmosphere."  
It is designed and conducted to meet the  
requirements of patients who demand



### Privacy and Individual Attention

*Special consideration is given  
to Quality of Service*

Rates \$22.00 to \$35.00 per week

H. V. PETTIT, Supt.

OTTAWA

ILLINOIS



## Chicago Fresh Air Hospital

(FOR TUBERCULOSIS)

*At Rogers Park, Chicago, Illinois*

Patients received in *all* stages of Pulmonary Consumption.

Private Rooms and Board, \$25.00 per week.

Open Porch and two-bed Rooms, with Board, \$14.00.

Tuberculin Treatment  
Artificial Pneumo-Thorax

DR. ETHAN A. GRAY,

*Medical Superintendent.*

## THE POTTENGER SANATORIUM

MONROVIA, CALIFORNIA

FOR DISEASES OF THE LUNGS AND THROAT



A thoroughly equipped institution for the scientific treatment of tuberculosis. High class accommodations. Ideal all-year-round climate. Surrounded by orange groves and beautiful mountain scenery, 45 minutes from Los Angeles.

F. M. POTTENGER, A.M., M.D. LL.D.,  
Medical Director.

J. E. POTTENGER, A.B., M.D., Assistant  
Medical Director and Chief of Laboratory.

GEORGE H. EVANS, M.D. San Francisco,  
Medical Consultant.

For Particulars, Address THE POTTENGER SANATORIUM, Monrovia, California  
LOS ANGELES OFFICE, 1100-1101 TITLE INSURANCE BUILDING, FIFTH AND SPRING STREETS



# EDWARD SANATORIUM

For the Treatment of Incipient Pulmonary Tuberculosis  
NAPERVILLE, ILLINOIS



Established 1907. Attractive surroundings. Large grounds. Open-air sleeping cottages and infirmary with all appointments necessary for the comfort of the patients.

Modern hygienic-dietetic method of treatment. Medical and laboratory facilities. Resident physicians and trained nurses.

**Tuberculin Treatment and Artificial Pneumothorax in suitable cases**

*For detailed information, rates and rules of admission, apply to*

**CHICAGO TUBERCULOSIS INSTITUTE, 8 South Dearborn Street, Room 1212, CHICAGO, ILL.**



On Main Line Chicago, Milwaukee & St. Paul Railway  
30 Miles West of Milwaukee

# Oconomowoc Health Resort

OCONOMOWOC, WISCONSIN

**For Nervous and Mild Mental Diseases**

Building New, Most Approved Fireproof Construction

**ARTHUR W. ROGERS, M.D., Resident Physician in Charge**  
LONG DISTANCE TELEPHONE

Built and equipped to supply the demand of the neurasthenic, borderline and undisturbed mental case for a high class home free from contact with the palpable insane, and devoid of the institutional atmosphere. Forty-one acres of natural park in the heart of the famous Wisconsin Lake Resort Region. Rural environment, yet readily accessible. The new building has been designed to encompass every requirement of modern sanitarium construction, the comfort and welfare of the patient having been provided for in every respect. The bath department is unusually complete and up-to-date. Number of patients limited, assuring the personal attention of the resident physician in charge.

*Trains met at Oconomowoc on request.*

# The Norbury Sanatorium

JACKSONVILLE ILLINOIS

*Established by Dr. Frank P. Norbury, 1901*

Incorporated and Licensed

**"Maplewood" — "Maplecrest"**

**Capacity Forty Beds**

**P**PRIVATE RESIDENTIAL HOMES for the treatment of Nervous and Mental Disorders. Especial attention given to the treatment, by approved modern methods, of the Psychoneuroses, Exhaustion states and selected Psychoses and addiction cases.

**Dr. FRANK P. NORBURY,**  
Medical Director. (Late  
Alienist, State Board of Ad-  
ministration. Formerly  
Supt. Kankakee State Hos-  
pital.)

**DR. ALBERT H. DOLLEAR**  
Superintendent (Late  
Clinical Asst., State Psycho-  
pathic Institute, Kankakee,  
Formerly Asst Supt., Water-  
town State Hospital.)

**Address all communications, THE NORBURY SANATORIUM, 806 South Daimond Street, JACKSONVILLE, ILLINOIS**  
Springfield Office, DR. FRANK P. NORBURY, 407 South Seventh Street, by appointment

# Kenilworth Sanitarium

(Established 1905)



All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois

## KENILWORTH, ILLINOIS

(C. & N.-W. Railway. Six miles north of Chicago)

Built and equipped for the treatment of nervous and mental diseases. Approved diagnostic and therapeutic methods. An adequate night nursing service maintained. Sound proof rooms with forced ventilation. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.

### Resident Medical Staff

Margaret S. Grant, M. D., Sherman Brown, M. D.

Sanger Brown, M. D.,

Chicago Office: 59 E. Madison Street,

Telephone: Randolph 5794

Hours: 11 to 1, by appointment only



Established 1867

# BELLEVUE SANITARIUM

BATAVIA, ILLINOIS  
near CHICAGO

*For Nervous and Mental Diseases  
of Women Only*

Restful, homelike and accessible. Treatment modern,  
scientific and ethical.

TERMS MODERATE.

WRITE FOR BOOKLET



# The Hygeia Hospital

Formerly

The Hygeia Sanitarium

Is the only institution in the Middle West

**exclusively treating Drug and Alcohol Addiction**  
by the method given to the medical profession through the Journal A. M. A., June, 1913.

Patients freed from their habit and craving without suffering or publicity. By means of clinical and laboratory examinations, the treatment is adapted to the condition of the individual.

A fixed charge is made, covering all ordinary expenses.

Reprints and other information sent on request.

Wm. K. McLaughlin, M. D.

Med. Supt.

2715 Michigan Boulevard

CHICAGO, ILL.



BUILDING ABSOLUTELY FIRE-PROOF

# Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF  
**NERVOUS DISEASES**

BYRON M. CAPLES, M.D., Superintendent

Waukesha

::

Wisconsin



# NEURONHURST

Dr. W. B. Fletcher's Sanatorium



**For Treatment of Mental and Nervous Diseases, Including Legally Committed and Voluntary Cases**

Well equipped with all facilities for the care and treatment of all forms of mental and nervous diseases, inebriety, drug addiction and those requiring recuperation and rest. Gynecological department is in charge of skilled women physicians. All approved forms of Hydrotherapy, Balneotherapy, Massage, Swedish Movements, etc. All forms of Electrical Treatments. Phototherapy, High Frequency and X-Ray work. A strictly ethical institution. Correspondence with physicians invited. For particulars and terms, address:

**DR. MARY A. SPINK, Superintendent.** Long Distance Telephones **1140 E. Market St., INDIANAPOLIS**

## DR. SIDNEY D. WILGUS

Retiring Superintendent of Kankakee State Hospital, also former Superintendent of Elgin State Hospital.

### Begs to Announce

**that he has purchased a Sanitarium at Rockford, Ill. (The Ransom)**

and is prepared to give personal care and attention to mental and nervous cases and drug addictions. Modern features having been added, the equipment is qualified to give up-to-date treatment. Also tennis, croquet, boating, and other out-door exercises are prescribed. A nine-hole golf course is near by. Correspondence solicited, or, to save time, telephone: Long Distance, Rockford 3767, and reverse the charges. On request patients are met at any train with an automobile.

**Mail address, DR. SIDNEY D. WILGUS, Box 304, Rockford, Ill.**

**Chicago Office. Thursday Mornings until 12 at Suite 1603, 25 E. Washington St.**

**And by appointment**



ENTRANCE

WEST HOUSE

OFFICE AND BATH HOUSE

PSYCHOPATHIC HOSPITAL

GYMNASIUM

**ESTABLISHED  
IN 1884**

## THE MILWAUKEE SANITARIUM FOR NERVOUS AND MENTAL DISEASES

**WAUWATOSA,  
WIS.**

Located at Wauwatosa (a suburb of Milwaukee) on C. M. & St. P. Ry., 2 1/2 hours from Chicago, 15 minutes from Milwaukee, 5 minutes from all cars. Two lines street cars. Complete facilities and equipment as heretofore announced. † New Psychopathic Hospital: Continuous baths, fire-proof building, separate grounds. † New West House: Rooms en suite with private baths. † New Gymnasium and Recreation Building: Physical culture, new "Zander" machines, shower baths. † Modern Bath House: Hydrotherapy, Electrotherapy, Mechanotherapy. † 30 acres beautiful hill, forest and lawn. Five houses. Individualized treatment. Descriptive booklet will be sent upon application.

**RICHARD DEWEY, A. M., M. D.**

**EUGENE CHANEY, A. M., M. D.**

**J. E. ROBINSON, M. D.**

**CHICAGO OFFICE**  
Marshall Field Annex Building  
25 East Washington Street  
Wednesdays 1 to 3, except July and August



## The Cincinnati Sanitarium For Mental and Nervous Diseases

Incorporated 1873

A strictly modern hospital fully equipped for the scientific treatment of nervous and mental affections. Situation retired and accessible. For details write for descriptive pamphlet.

F. W. Langdon, M.D., Medical Director

B. A. Williams, M. D., Resident Physician

Emerson A. North, M.D., Resident Physician

H. P. COLLINS, Business Manager, Box No. 4, College Hill, Cincinnati, Ohio



ABSOLUTELY FIREPROOF BUILDING

LESS THAN THREE HOURS FROM CHICAGO

## Mud Baths

For the treatment of RHEUMATISM, Nervousness, Kidney, Liver and Skin Diseases, and all ailments requiring elimination and relaxation. Location beautiful; climate healthful; 80 acres of private grounds.

DR. AUGUSTUS S. GILLES, Medical Director

*Correspondence with physicians solicited*

For rates, literature and reservations, address

**Waukesha Moor (Mud) Bath Co.**

WAUKESHA, WISCONSIN

## Burr Oak Sanatorium For the Treatment of Tuberculosis WHEATON, ILL.

A small home-like Sanatorium devoid of the institutional atmosphere. Beautiful grounds and surroundings; conscientious, individual attention. Fresh milk and eggs from the farm. Excellent table. Rates \$9.00 per week.

D. C. MOULDING, M.D., Physician-in-Charge

Chicago Office, Room 340, 440 So. Dearborn St.

Hours: 12 to 2 P. M., Mondays and Wednesdays

## The Peoria Mud Baths

We insist that your patients can eliminate as freely and as effectually in Illinois as in any other State in the Union.

Strict ethical relations. Thoroughly equipped. Have had thousands of patients. The only developed mineral springs in the State. One hundred rooms devoted to baths.

DR. E. W. OLIVER, Medical Supt.

**SULPHUR SPRINGS SANITARIUM**  
215-217 N. Adams St. Peoria, Illinois





## DR. WEIRICK'S SANITARIUM

FORMERLY DR. BROUGHTON'S SANITARIUM  
ESTABLISHED IN 1901

**For Opium, Morphine  
Cocaine and Other Drug  
Addictions, Including  
Alcohol and Special  
Nervous Cases**

Methods easy, regular, humane.  
Good heat, light, water, help, board,  
etc. Number limited to 44. A well  
kept home. Nervous-Mental De-  
partment in charge of Dr. W. L.  
Ransom. Address

**DR. G. A. WEIRICK**  
SUPERINTENDENT

**2007 South Main Street**

Phone 536  
**Rockford - - - Illinois**

**PETTEY & WALLACE**  
958 S. Fifth Street  
MEMPHIS, TENN.  
**SANITARIUM**



FOR THE TREATMENT  
OF

**Drug Addiction, Alcoholism,  
Mental and Nervous Diseases**

A quiet, home-like, private, high-  
class institution. Licensed. Strictly  
ethical. Complete equipment. Best  
accommodations.

Resident physician and trained  
nurses.

Drug patients treated by Dr.  
Petty's original method.

Detached building for mental  
patients.

# The Peoria Sanatorium

A private Sanatorium for the treatment of Nervous and Mental Diseases,  
by modern methods. Flowing Sulphur Spring. Licensed by the State.

**DRUG AND LIQUOR HABITS TREATED**

WRITE FOR BOOKLET

**Director, DR. GEO. W. MICHELL**

**PHONE MAIN 225.**

**Address, 106 N. Glen Oak, PEORIA, ILL.**

## ILLINOIS POST-GRADUATE MEDICAL SCHOOL

General clinics are conducted in Surgery, Gynecology, Pediatrics, Orthopedics, Dermatology, Diseases of the Urinary Tract, Clinical Medicine, Eye, Ear, Nose and Throat.

Courses are given in Laboratory Diagnosis — covering Blood, Bacteria, Urinalysis and Gastric Contents. Also Practical Courses in the Wassermann Reaction. Noguchi and Gonorrhea Fixation, Colloidal Gold and Nonne Tests are given.

Professor Paul Gronnerud conducts Special Courses in Operative Surgery and Surgical Anatomy, together with special work upon dog.

Address **JAMES A. CLARK, M. D., Secretary**

1846 West Harrison Street

:

:

CHICAGO, ILL.

## PHYSICIANS APPROVE of My Work for Women

I wish every physician to know what my personal work for women really is, and does, because physicians who fully understand it frankly welcome my help—they send me hundreds of patients.

Every physician has cases in which an individual, scientific personally directed course in proper exercise, breathing, bathing and diet would greatly assist to build up.

My exercises will materially help your cases of Chronic Constipation, Torpid Liver, Indigestion, Anaemia, Neurasthenia, Weakened Heart Muscles, Undeveloped Lungs, Poor Circulation, Uterine Displacement, increase the oxygen-carrying power of the blood, by building up and strengthening the physical and nervous system.

I teach women how to walk, how to stand correctly, how to breathe, how to exercise normally, so that no organ is displaced by over or improper exercise or imperfect poise.

The mental interest and incentive developed by the individual lessons dispel that languor and indifference which physicians often find hard to cope with.

I study each pupil's special requirements, and prescribe for her individually, just as you prescribe for your patients. I give no promiscuous exercise, but direct each woman according to her needs and her strength. I have spent years in the study of anatomy and physiology, and accept no cases where pronounced pathological conditions are present, as I know the possibilities of my work and know its limitations.

In many cases I insist that the pupil have the consent and advice of her physician; in others, I require a regular weekly examination by physicians.

For 12 years I gave personal instructions to women before attempting instructions by mail. Upon request, I will send you, with information concerning my work, any one of the following lectures: A Good Figure; Circulation; Body Manikin and Position of the Vital Organs; Ideals and Privileges of Woman; Character as Expressed in the Body; Mind Over Matter—The Nervous System—Effect of Habit Upon Life—Foods; Self-Sufficiency—Mental Poise; Motherhood; Vital Organs—Their Uses and Abuse.

**SUSANNA COCROFT, Dept. 33, 624 Michigan Ave., CHICAGO**

MISS COCROFT HAS PERHAPS HAD A WIDER EXPERIENCE THAN ANY WOMAN IN AMERICA IN  
PRESCRIBING REMEDIAL EXERCISES FOR WOMAN





# Chicago College of Medicine and Surgery

**MEDICAL  
DEPARTMENT OF  
VALPARAISO  
UNIVERSITY**



**702-706  
SO. LINCOLN ST.  
CHICAGO, ILL.**

**Main College Building and Willard Hospital**

This College has an enrollment of 500 students. The Laboratory and Hospital facilities are abundant.

The Faculty consists of men who have distinguished themselves as medical educators.

The College is not burdened with debts and is therefore able to expend all of its income upon the courses of instruction.

The Calendar year is divided into three semesters of four months each. The Fall semester begins on the last Tuesday in September. The Winter semester begins on the first Monday in February. The Summer semester begins on the first Monday in May.

*For catalogue or further information address*

**J. NEWTON ROE, Secretary**

**706 S. Lincoln St., Chicago, Ill.**

## Chicago Eye, Ear, Nose and Throat College

**A Post-Graduate School for Prac-  
titioners of Medicine**

**235 W. Washington Street  
Chicago, Ill.**

**Catalogue on Application**

## THE COLLEGE OF MEDICINE of the UNIVERSITY OF ILLINOIS



Minimum admission requirements to the Freshman year, fifteen units of work from an accredited high school and in addition two years in a recognized university or college involving at least one year in college physics, biology, chemistry and six college hours in French or German.

For course of Medical study, four years are required. Eligible students will receive the degree of B. S. at the completion of the Sophomore year. Well equipped laboratories and good hospital facilities.

Excellent location in the heart of Chicago's great medical center. Collegiate year begins September 28th, 1916. For full information concerning course of study, fees, etc., address Secretary, Box 51 COLLEGE OF MEDICINE of the UNIVERSITY OF ILLINOIS Congress and Honore Streets Chicago, Illinois

## Chicago Maternity Hospital and Training School for Nurses

**ACCOMMODATES 25 PATIENTS  
RATES: \$10.00 to \$25.00 PER WEEK**

Well infants cared for in nursery for \$5.00 per week.  
Training School for Obstetrical and Infants' nurses.

Address

**EFFA V. DAVIS, M.D., 2314 N. Clark St., Chicago**

## "BEVERLY FARM"

**HOME AND SCHOOL  
For Nervous and Backward Children**

Separate buildings for boys, girls and children under 10 years of age. Thirty-three years experience in this work. A brick school house and gymnasium. One hundred and seventy-five acres of land, forty of which has fine timber with log cabin.

Consultation at home if desired. Publicity avoided. Address all communications to

**W. H. C. SMITH, M. D., Superintendent  
Godfrey, Madison Co., Ill.**

"Beverly Farm" was awarded a grand prize by the committee of awards of the Louisiana Purchase Exposition.



## *Doctor, You Can't Afford to Have Your Car Laid Up for Repairs*

Polarine minimizes friction and repairs and adds power and life to your motor. Use Polarine and lubrication begins the minute your engine starts.

Polarine sales are increasing at the rate of one million gallons a year. Its use is recommended by the Standard Oil Company for any style or make of car.

# Polarine

FRICION REDUCING MOTOR OIL

is not only fair weather oil. It flows as freely at zero as at 100 degrees. It maintains the correct lubricating body at any motor speed or temperature.

Polarine is produced scientifically by acknowledged authorities who have made a life study of lubrication.

Order a half barrel today and protect your car investment.

**Standard Oil Company** (Indiana) **Chicago, U. S. A.**

Use Red Crown Gasoline and get more power, more speed, more miles per gallon



# BUYER'S INDEX

Abbott Laboratories.....	7
Accuracy Laboratories.....	11
Alexander, Dr. H. M., Co.....	9
A. Arend Drug Co.....	12
Armour & Co.....	32
Bayer Company.....	7
Bellevue Sanitarium.....	20
Bevely Farm School.....	25
Burr Oak Sanatorium.....	22
Chicago College of Medicine and Surgery.....	25
Chicago Eye, Nose & Throat College.....	25
Chicago Fresh Air Hospital.....	18
Chicago Laboratory.....	13
Chicago Laboratory of Surgical Technique.....	12
Chicago Maternity Hospital.....	25
Chicago Med. Soc. Milk Com.....	4
Chicago Pasteur Institute.....	12
Cincinnati Sanitarium.....	22
College of Medicine, Univ. of Ill.....	25
Cocroft, Susanna.....	24
Crittenton, Chas. N. Co.....	30
Edward Sanatorium.....	19
Fletcher's Sanatorium.....	21
Gradwohl Biological Laboratories.....	12
Harvey, G. F.....	17
Horlick's Malted Milk Co.....	2
Hygeia Hospital.....	20
Illinois Post Graduate School.....	24
Kenilworth Sanitarium.....	20
Lederle Antitoxin Laboratory.....	31
Medical Protective Co.....	11
Mead, Johnson & Co.....	4

Mellin's Food Co.....	6
Milwaukee Sanitarium.....	21
Mueller & Co., V.....	
Mulford, H. K., & Co.....	
Norbury Sanitarium.....	19
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Parke, Davis & Co.....	16
Pennoyer Sanitarium.....	6
Peoria Mud Baths.....	22
Peoria Sanatorium.....	23
Petty & Wallace's Sanitarium.....	23
Phillips Co., Chas. H.....	28
Pitman-Moore Co.....	4
Pottenger Sanatorium.....	18
Pure Gluten Food Co.....	5
Quaker Oats Co.....	5, 29
Ransom Sanitarium.....	21
Saunders Co., W. B.....	front cover
Schmid Chemical Co.....	14
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Sherman, G. H., M. D.....	5
Standard Oil Co.....	3, 26
Storm, Katherine L., M. D.....	11
Sulphur Springs Sanitarium.....	23
Swan-Myers Co.....	14
Tilden Co., The.....	6
Waukesha Moor (Mud) Bath Co.....	22
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium.....	28

# INDEX TO ADVERTISERS

## ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D.....	11
--------------------------------	----

## AUTOMOBILES, ETC.

Goodyear Tire & Rubber Co.....	25
Standard Oil Co.....	3, 30

## FOOD

Arend-Adamick Koumyss.....	12
Certified Milk.....	4
Horlick's Malted Milk Co.....	2
Mead, Johnson & Co.....	6
Mellin's Food Co.....	6
Pure Gluten Food Co.....	5, 29
Quaker Oats.....	5, 29

## HOSPITAL

Chicago Fresh Air Hospital.....	18
Chicago Maternity Hospital.....	25
Hygeia Hospital.....	20

## INVESTMENTS AND INSURANCE

Medical Protective Co.....	11
----------------------------	----

## LABORATORY

Abbott Laboratories.....	7
Accuracy Laboratories.....	11
Chicago Laboratory.....	13
Chicago Laboratory of Surgical Technique.....	12
Gradwohl Biological Laboratories.....	12
Swan-Myers Co.....	14

## MEDICAL BOOK PUBLISHERS

Saunders Co., W. B.....	front cover
-------------------------	-------------

## MEDICAL SCHOOLS

Chicago College of Medicine and Surgery.....	25
Chicago Eye, Ear, Nose & Throat College.....	25
College of Medicine, Univ. of Ill.....	
Illinois Post Graduate School.....	24

## MUD BATHS

Peoria Mud Baths.....	22
Waukesha Moor (Mud) Bath Co.....	22

## PHARMACEUTICALS

Abbott Laboratories.....	7
Alexander, Dr. H. M., Co.....	9
Armour & Co.....	32
Bayer Company.....	7
Crittenton, Chas. N. Co.....	30
Harvey, G. F.....	17
Hygeia Sanitarium.....	17
Kenilworth Sanitarium.....	20
Lederle Antitoxin Laboratory.....	31
Mead, Johnson & Co.....	4
Mulford, H. K., & Co.....	
Parke, Davis & Co.....	16
Phillips Co., Chas. H.....	28
Pitman-Moore Co.....	4
Schmid Chemical Co.....	14
Sherman's Bacterins.....	5
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Swan-Myers Co.....	14
Tilden Co., The.....	6

## SANATORIA & SANITARIA

Bellevue Sanitarium.....	20
Burr Oak Sanatorium.....	22
Cincinnati Sanitarium.....	22
Edward Sanatorium.....	19
Fletcher's Sanatorium.....	21
Norbury Sanitarium.....	19
Milwaukee Sanitarium.....	21
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Pennoyer Sanitarium.....	6
Peoria Sanitarium.....	23
Petty & Wallace's Sanitarium.....	23
Pottenger Sanatorium.....	18
Ransom Sanitarium.....	21
Sulphur Springs Sanitarium.....	23
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium.....	23

## SURGICAL INSTRUMENTS

Mueller & Co., V.....	24
-----------------------	----

IN PLACE OF OTHER ALKALIES USE

# Phillips' Milk of Magnesia

"THE PERFECT ANTACID"

For Correcting Hyperacid Conditions—Local or Systemic. Vehicle for Salicylates, Iodides, Balsams, Etc.

Of Advantage in Neutralizing the Acid of Cows' Milk for Infant and Invalid feeding.

## Phillips' Phospho-Muriate of Quinine

Compound

NON-ALCOHOLIC TONIC AND RECONSTRUCTIVE

With Marked Beneficial Action Upon the Nervous System. To be relied Upon Where a Deficiency of the Phosphates is Evident.

THE CHAS. H. PHILLIPS CHEMICAL CO.

NEW YORK

LONDON

## CONTENTS—Continued

Radium Therapy. Frank E. Simpson, M. D., Chicago..	123
The Clinical Significance of Vicarious Gastrorrhagia. Frank Smithies, M. D., and Robert Bowen, M. D., Chicago .....	126
Malignant Endocarditis. Albert Howard Baugher, M. D., Chicago .....	132
The Management of Empyema in Childhood. A. Merrill Miller, M. D., Danville, Ill.....	138
X-Ray Interpretation. Fred S. O'Hara, M. D., Springfield, Ill.....	141

### EDITORIAL.

New Ruling in Harrison Law.....	143
Infantile Paralysis.....	144
Statute of Limitations.....	145
Dr. Cotton.....	145
James Whitcomb Riley.....	147
Tuberculosis Notes.....	147

### CORRESPONDENCE.

Lt. O. Hansen Letter.....	147
---------------------------	-----

### PUBLIC HEALTH.

Infantile Paralysis.....	148
Health Survey of Cumberland County.....	149
Illinois Public Health & Welfare Association.....	149
Curing the Incurable.....	150

### AUTO SPARKS AND KICKS.

Slandering the Ford.....	151
Interliners in New Tires.....	151

### SOCIETY PROCEEDINGS.

Adams County.....	152
Cook County:	
Chicago Laryngological & Otological Society.....	152
Madison County.....	153
Morgan County.....	153
Pike County.....	153
Tazewell County.....	154
Personals .....	154
News .....	155
Marriages .....	157
Obituary .....	158
Deaths .....	159
New and Non-Official Remedies.....	159
Book Notices.....	160



**COUNTY SOCIETIES—Continued.**

<b>Pope County</b>	
J. A. Fisher, Pres.....	Brownfield
L. S. Barger, Secy.....	Golconda
<b>Pulaski County</b>	
J. F. Hagan, Pres.....	Mound City
W. R. Wesenberg, Secy.....	Mound City
<b>Randolph County</b>	
Wm. R. McKenzie, Pres.....	Chester
John P. Grimes, Secy.-Treas.....	Menard
<b>Richland County</b>	
A. T. Telford, Pres.....	Olney
E. H. Horner, Secy.....	Olney
<b>Rock Island County</b>	
Geo. A. Wiggins.....	Milan
A. E. Williams, Secy.....	Rock Island
<b>St. Clair County</b>	
B. H. Portuondo, Pres.....	Belleville
A. E. Hansing, Secy.....	Belleville
<b>Saline County</b>	
M. D. Impson, Pres.....	Brushy
E. W. Cummins, Secy.....	Harrisburg
<b>Sangamon County</b>	
Arthur E. Prince, Pres.....	Springfield
H. B. Henkel, Secy.....	Springfield
<b>Schuyler County</b>	
A. W. Ball, Pres.....	Rushville
J. C. Steiner, Secy.....	Rushville
<b>Scott County</b>	
J. W. Eckman, Pres.....	Winchester
H. H. Fletcher, Secy.....	Winchester
<b>Shelby County</b>	
F. A. Martin, Pres.....	Tower Hill
Frank P. Auld, Secy.....	Shelbyville
<b>Stark County</b>	
James R. Holgate, Pres.....	Wyoming
Clyde Berfield, Secy.....	Toulon
<b>Stephenson County</b>	
W. B. Peck, Pres.....	Freeport
N. C. Phillips, Secy.....	Freeport
<b>Tazewell County</b>	
H. L. Yoder.....	Morton
F. C. Gale, Secy.....	Pekin
<b>Union County</b>	
G. W. Marrow, Pres.....	Anna
E. V. Hale, Secy.....	Anna
<b>Vermillion County</b>	
A. E. Dale, Pres.....	Danville
O. H. Crist, Secy.....	Danville
<b>Wabash County</b>	
P. G. Manley, Pres.....	Mt. Carmel
A. A. Aukerbrandt, Secy.....	Mt. Carmel
<b>Warren County</b>	
Philo B. Conant, Pres.....	Roseville
H. M. Camp, Secy.....	Monmouth
<b>Washington County</b>	
D. S. Neer, Pres.....	Beaucoup
P. B. Rabenneck, Secy.....	Nashville
<b>Wayne County</b>	
T. J. Hilliard, Pres.....	Fairfield
Ostella F. Blakely, Secy.....	Fairfield
<b>White County</b>	
C. B. Staley, Pres.....	Enfield
John Niess, Secy.....	Carmi
<b>Whiteside County</b>	
W. H. Durkee, Pres.....	Fulton
H. N. Schmaling, Secy.....	Fulton
<b>Will County</b>	
A. L. Schreffler, Pres.....	Joliet
Marion K. Bowles, Secy.....	Joliet
<b>Williamson County</b>	
J. G. Parmley, Pres.....	Marion
H. A. Felts, Secy.....	Marion
<b>Winnebago County</b>	
D. B. Penniman, Pres.....	Argyle
C. M. Ranseen, Secy.-Treas.....	Rockford
<b>Woodford County</b>	
F. W. Nickel, Pres.....	Minonk
H. A. Millard, Secy.....	Minonk



# Grains

## Steam-Exploded 8 Times Normal Size

Prof. Anderson's process explodes every food cell in a kernel of wheat or rice. Over 100 million separate explosions are caused in every kernel.

The whole grains are sealed up in huge guns. The guns are revolved for 60 minutes in a heat of 550 degrees.

The trifle of moisture inside each food cell is thus made steam. When the guns are shot that steam explodes. Every food cell is blasted. And the grains are puffed to bubbles, eight times normal size.

No other method of cooking, they say, breaks even half of the food cells. The rest are left hard and unbroken.

Puffed Wheat and Rice are considered by experts the best-cooked cereal foods in existence.

These foods are fascinating, both in taste and texture. They are served in many ways. They are easily digested. And every atom feeds.

## The Quaker Oats Company

Chicago

(1376)

Puffed Wheat,	12c
Puffed Rice,	15c
Corn Puffs,	Corn Hearts Puffed 15c
Except in Extreme West	

## READER!

are you buying your supplies from our advertisers?

Our advertising pages are your property as a member of the Illinois State Medical Society.

Advertisers will pay for space in proportion as you buy from them, and thus make the space valuable to them.

Order now, and write that you saw the "ad" in the JOURNAL.

## WANTED, FOR SALE, AND RENT DEPARTMENT

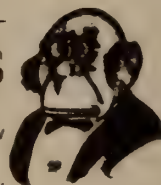
Advertisements under this heading cost one dollar for four lines or less, and 25 cents for each additional line, each insertion. Payable in advance. Line holds eight ordinary words.

FOR RENT, with the privilege of buying, absolutely modern equipped hospital of 35 beds in Illinois city of 20,000. Supported by six of the best offices of the city. Given up on account of illness. References required. Address Z, care Illinois Medical Journal, 3338 Ogden avenue, Chicago.

I AM SORRY I  
did NOT advertise

—in the—

ILLINOIS  
MEDICAL  
JOURNAL



## Doctor—

*Read carefully and  
learn what you  
will receive, if  
you join the  
Illinois  
State Medical  
Society*

### QUALIFICATIONS FOR MEMBERSHIP

Every registered physician residing in Illinois, as may be authorized by the State Society, who is of good moral and professional standing, and who does not claim to practice any exclusive system of medicine, shall be eligible for membership.

YOU get medico-legal protection, membership in your County Medical and Illinois State Medical Societies, and the Illinois Medical Journal. Membership in these makes you eligible to membership in the American Medical Association.

1. MEMBERSHIP IN THE ILLINOIS STATE MEDICAL SOCIETY. All members of a County Medical Society are *ipso facto* members of the State Society and receive all publications of the State Society without additional fees, dues or subscriptions. The Illinois State Medical Society is one of the greatest local medical organizations in the world. Affiliation and association with this large and representative body of men is of great value and importance to every physician.

2. MEDICAL DEFENSE. Out of your annual dues the trustees of your County Medical Society are required to turn \$1.00 over to the "medical defense committee" for the protection and defense of members of the society against whom suits for malpractice or damages may be brought. For years the Illinois State Medical Society has been meeting all expenses of such litigation—court costs, attorney's fees, costs of appeals, witness fees, the cost of record—no limitation being placed on the expense of an individual case.

This means protection against suits for damages for alleged malpractice, as well as attempted blackmail. This one feature alone is worth many times the cost of membership. Private defense companies are charging \$15.00 per year and upwards for the defense feature alone.

Come to the next meeting of the local society of the District in which you live and meet the other physicians of your neighborhood. Fill out the application blank on advertising page 4 and send it, together with membership fee, to the Secretary of your County Society, and thus secure the benefits mentioned.



# Hay Fever

## Convincing Clinical Data Prove Value of Pollen Vaccine

**D**URING 1915, LEDERLE'S *Pollen Vaccine* was used by over 600 physicians for the prophylaxis and treatment of Hay Fever. The clinical data submitted to us show *83 per cent favorable results* from Pollen Vaccine as a prophylactic against Hay Fever, and *89 per cent favorable results* in the treatment of Hay Fever. Asthmatic symptoms were relieved in 84.2 per cent of the cases.

LEDERLE'S is a combined *Pollen Vaccine* containing pollen from all the common grasses, weeds and flowering plants which are known to be important in causing hay-fever in the spring and fall.

Lederle's POLLEN VACCINE is supplied in the following packages:

1. Complete vaccine treatment, containing doses 1 to 15, inclusive. Price..... **\$15.00**
2. Series A, containing doses 1 to 5 only. Price..... **5.00**
3. Series B, containing doses 6 to 10 only. Price..... **5.00**
4. Series C, containing doses 11 to 15 only. Price..... **5.00**

Booklet sent on request.

**Lederle Antitoxin Laboratories**

**Schieffelin & Co., Distributors**

**New York**



# Certified Milk Is PURE Milk

and every drop is clean.

Certified to by the Chicago Medical Society Milk Commission, under whose rigid inspection every drop of Certified Milk is produced.

Clean and proper feed, clean cows, clean milkers, clean barns, sterilized bottles sealed and kept in ice at 45° until delivered at your door. **EVERY STEP OF EVERY DROP** of Certified Milk keeps it clean and pure from the cow's feed right up to your door.

Nothing is done to Certified Milk except keep it pure. It is never mixed with other milk—it is never treated in any way. It is the product of pure food fed to healthy cows, sealed and packed in ice and delivered at your door the same day or the next.

## Certified Milk



*Is Safe for Family Use.*

*Is Safe for Infants and Invalids.*

*Is Safe for Everybody All the Time.*

*Costs More, but is worth it.*



# Illinois Medical Journal

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Vol. XXX, No. 3

CHICAGO, SEPTEMBER, 1916

\$2.00 a Year

## CONTENTS

### ORIGINAL ARTICLES

	PAGE
Improved Technique in My New Submucous Operation. <i>Oliver Tydings, M. D., Chicago</i> .....	161
The Tonsil—Its Medico-Legal Aspect. <i>Charles J. Whalen, M. D., Chicago</i> .....	164
The Tonsil in Its Relation to a Series of Infection Sequences. <i>Frank Buckmaster, M. D., Effingham, Ill</i> .....	166
Diagnostic and Prognostic Value of Visual Fields, with Some Suggestions in Technique. <i>George F. Suher, Chicago</i> .....	173
The Detection of Monolateral Malingerers and Demonstra- tion of Instrument. <i>Carl B. Wagner, M. D., Chicago</i> .....	178

	PAGE
Horse Hair Suture for the Relief of Tension in Glaucoma. <i>J. Whitefield Smith, M. D., Bloomington, Ill.</i> .....	179
Common Focal Centers of Metastatic Infections in the Upper Respiratory Tract. <i>W. J. Rideout, M. D., Freeport, Ill</i> .....	180
Treatment of Penetrating Injuries to the Eyeball. <i>Harry W. Woodruff, M. D., Joliet, Ill</i> .....	183
Circular Plastic of Eyelid in Cicatricial Ectropion. <i>E. F. Snydacker, M. D., Chicago</i> .....	186
The Diagnosis of Disorders Affecting the Perception Organ of Hearing. <i>Otto J. Stein, M. D., Chicago</i> .....	188

(Continued on adv. page 28)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879.

## Ready—MacCallum's Pathology

Dr. MacCallum's new work presents pathology from an entirely new angle. Most text-books on pathology consider the diseases of each organ separately under the name of the organ as a heading. Dr. MacCallum's book, however, considers pathology on the principle that practically every pathologic condition is the direct or indirect effect of an injury; that is, the direct effect or the immediate or remote reaction of the tissues. Tumors alone cannot be brought under this category. In a word, this book presents

### Pathology on the Basis of Etiology

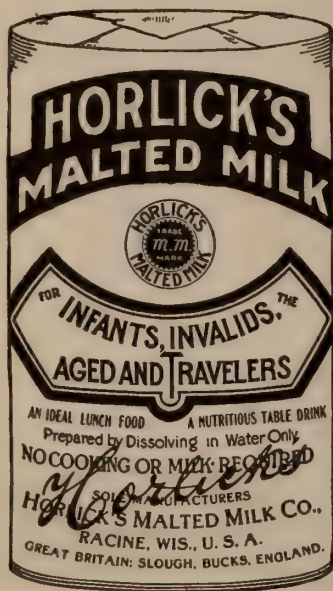
The treatment of the subject is not limited to anatomic and morphologic descriptions, but functional disturbances are discussed, as well as those of chemical character. The entire work is based upon the study of the material itself, and practically all the illustrations were made direct from those particular specimens studied. There are 575 of these accurate and superb illustrations, very many of them in colors.

Practitioners and those specially interested in pathology will find in this book many new facts capable of practical application in the practice of medicine and surgery.

By W. G. MACCALLUM, M.D., Professor of Pathology, College of Physicians and Surgeons, New York. Octavo of 1083 pages, with 575 original illustrations, many in colors. Cloth, \$7.50 net; Half Morocco, \$9.00 net.

W. B. SAUNDERS COMPANY, West Washington Square, Phila.

This Issue 6,600 Copies



## THIS IS THE PACKAGE!

(others are imitations)

*And is your guarantee and protection against the concerns, who led by the success of the Horlick's Malted Milk Company, are manufacturing imitation malted milks which cost the consumer as much as "Horlick's."*

Always specify

# Horlick's, the Original

And avoid substitutes

## That light touch

and a very flexible wrist are just as essential to the soluble hypodermic tablet maker as they are to the surgeon.

Too much pressure—and such tablets dissolve slowly; too little—and they're liable to crumble in the tube.

The "getting it just right" is one of several reasons why we have earned—and so long lived up to—the distinctive title

**"The Hypodermic  
Tablet People"**

**Sharp & Dohme**

Since 1860

**"Quality Products"**

Have you a free copy of our "Summary of Hypodermic Medication" on file?





# Stanolind Liquid Paraffin

Trade-Mark Reg. U. S. Pat. Off.

(Medium Heavy)

***Tasteless—Odorless—Colorless***

is practically without chemical affinity, and is affected by very few chemical re-agents. This feature is of paramount importance where physicians desire to administer a mineral oil in connection with other agents.

A trial quantity with informative booklet will be sent on request.

**Standard Oil Company**

(Indiana)

72 W. Adams St., Chicago, U. S. A.

## Sugar is an Extremely Important Constituent in Infant Feeding BUT

## YOU MUST SELECT THE RIGHT SUGAR

A large part of the troubles of infant feeding has been shown to be due to the ingestion of milk sugar or cane sugar.

## MEAD'S DEXTRI-MALTOSE

from the standpoint of DIGESTIBILITY and ASSIMILABILITY represents the properly balanced carbohydrate. Composition—Maltose 52%, Dextrin 41.7%, Sodium Chloride 2%.

Administration—1½ oz. Dextri-Maltose (2 heaping tablespoonfuls) to any milk and water mixtures suited to age and weight.

Literature and Samples on Request

**Mead Johnson & Co.**

**Evansville, Ind.**

There are many grades of crude drugs  
offered for sale on the drug market

*But—*

There is only one "best"

It takes the best grade of crude drug, the highest grade of workmanship, together with the most accurate and "time-tried" methods to make



**PITMAN-MOORE COMPANY, Chemists**  
INDIANAPOLIS, INDIANA



## Hoyt's Gum Gluten DIABETIC FOODS

Supplies the much needed variety to be used in place of the forbidden wheat products.

You will find from our analyses that you can regulate your patient's diet to your entire satisfaction by prescribing Hoyt's Gum Gluten.

Send for analyses, Starch Restricted Diet, etc.

**The Pure Gluten Food Company**  
90 West Broadway NEW YORK CITY

## Hay Fever LOGICALLY TREATED WITH

## SHERMAN'S BACTERINS

Pollen irritation favors the development of pyogenic bacteria in the respiratory tract which then become a primary factor of the disease. Experience shows that the immunizing influence of an appropriate bacterin will either cure the disease or so modify it that it causes but little distress.

WRITE OR LITERATURE

**G. H. SHERMAN, M. D.**  
DETROIT, MICHIGAN



## Bran Food

### Can You Tell Us How To Make It Better?

Can you tell us how to make a bran food better than Pettijohn's of today?

Here is a breakfast dainty—whole grains of soft wheat flaked. Everybody likes it. Folks gladly eat it daily.

These flakes hide 25 per cent. of bran. It is unground bran—flake bran—the sort that is efficient.

Is there any way to make a bran food more ideal than this? If not, please mention Pettijohn's

## *Pettijohn's*

*Rolled Wheat with Bran Flakes*

This is soft, flavory wheat rolled into luscious flakes, hiding 25 per cent. of unground bran. Can be cooked in 20 minutes. 15c per package.

**Pettijohn's Flour** is another bran product. It is 75 per cent. fine patent flour mixed with bran flakes—25 per cent. To be used like Graham flour in any recipe. 25c per large package.

**The Quaker Oats Company**

Chicago

(1413)

1848

# THE TILDEN COMPANY

1916

PREPARATIONS ARE THE STANDARD OF QUALITY

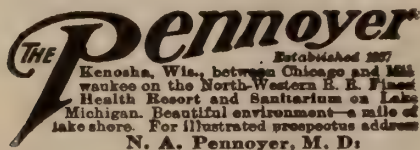
SINCE 1848

1848

NEW LEBANON, N. Y.

ST. LOUIS, MO.

1916



THIS SPACE TO LET

**DOCTOR:** It is our purpose to give to you on your orders, the best pharmaceuticals that the highest grade of crude drugs, pure chemicals and skilled workmanship, under experienced supervision, can produce.

When our man calls upon you, give him a few moments of your time. He will tell you more about what we are trying to do.

G. D. SEARLE & CO. Mfrs. of Fine Pharmaceuticals and Hypodermic Tablets  
215-217-219 W. Ohio St. CHICAGO Telephone North 1704

## A Temporary Diet for Infants in Summer Diarrhea

Mellin's Food

*4 level tablespoonfuls*

Water (boiled, then cooled)

*16 fluidounces*

Each ounce of this mixture has a food value of 6.2 calories—affording sufficient nourishment and in a form readily assimilable.



PHARMACEUTICALS  
ALKALOIDS  
CHEMICALS  
SERUMS VACCINES  
PRICE LIST  
ON REQUEST

*Made in  
America*  
*Abbott*  
TRADE MARK

THE ABBOTT LABORATORIES  
CHICAGO - NEW YORK  
SEATTLE - SAN FRANCISCO - TORONTO  
LOS ANGELES - BOSTON (THE METCALF CO.) - BOMBAY



**Bureau of Chemistry, U. S. Department of Agriculture:**

"The spurious aspirin is a mixture of either calcium phosphate and starch, cream of tartar and citric acid with some alum; or milk sugar, starch and calcium phosphate."—  
(From N. Y. Department of Health "Weekly Bulletin", Nov. 6, 1915)

**By Specifying**

**Bayer-Tablets**  
OF  
**Aspirin**

(5 grs. each)

**You Avoid Counterfeits**

The trade-mark  
"Aspirin" (Reg.  
U. S. Pat. Office)  
is a guarantee  
that the monoa-  
cetic acid ester of  
salicylic acid in  
these tablets is  
of the reliable  
Bayer manu-  
facture.

**Be Sure of Your Aspirin**

"Recent seizures in various cities of the country of numerous quantities of spurious aspirin make it important that the druggist should assure himself in all cases of the reliability of the source of his supply."—**Pacific Drug Review**, Feb., 1916.

FORM OF APPLICATION FOR ADMISSION TO ACTIVE MEMBERSHIP IN  
 ..... **COUNTY MEDICAL SOCIETY**

Chicago, Ill., .....

I hereby make application for active membership in the.....County  
 Medical Society and beg to submit the following qualifications:

[Here state medical schools attended, with diplomas and licenses to practice held.]

[PROPER DATE OF EACH]

.....  
 .....  
 .....

[State where hospital experience and post-graduate study and research work; College or school and hospital appointments, past and present; Membership in medical societies, past and present; Location of practice, past and present, with approximate dates showing time spent in each place.]

.....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....

I agree not to practice any exclusive system of medicine.

Signature .....

Residence .....

**ENDORSEMENT**

[Endorsers must reside in the same district with applicant.]

Date.....

This Certifies That I have known the above signed applicant .....

..... M.D., for .....years; that I  
 believe h.....to be a person of good moral and professional character and entirely worthy  
 of confidence. I hereby recommend h.....for active membership in the.....  
 COUNTY MEDICAL SOCIETY.

..... M.D.

..... P. O. Address

..... M.D.

..... P. O. Address

Approved by Membership Committee:

.....  
 .....  
 .....

Amount Paid.....

No.....

Membership Fee after July 1 will be at the rate of 50 cents per month until January 1.



# ALEXANDER'S TYPHOID VACCINE

---

THE value of this product in the prevention of Typhoid Fever is recognized by all authorities.

The success attained by its use in the United States Army places it above all other methods for the prevention of Typhoid Fever. Major F. F. Russell reports only one doubtful case among the vaccinated men in the Army from December, 1912, to August, 1913.

ALEXANDER'S TYPHOID VACCINE is prepared and standardized by scientists trained in this particular line of work.

The contract for supplying the Illinois State Board of Health has been awarded to the ALEXANDER Laboratories.

**DR. H. M. ALEXANDER & CO.**  
MARIETTA, PA.

*Trade Supplied by*  
**JOHN WYETH & BROTHER**  
174 West Lake Street  
CHICAGO, ILL.

# Diphtheria Antitoxin Mulford

For the Treatment and Prevention of Diphtheria

**Diphtheria Antitoxin** has reduced the mortality of diphtheria from 40 per cent to less than 10 per cent.\*

This mortality may be still further reduced

**By using Diphtheria Antitoxin earlier.**

**By giving larger doses—5000 to 10,000 units.**

**By intravenous injections in severe or late-treated cases.**

**The Time of Administering Antitoxin is Vital.**—In the Philadelphia Hospital for Contagious Diseases, from 1904 to 1910, 256 diphtheria patients were treated on the **first day of the disease and all recovered.**

Patients treated on the **second day** the mortality was **5.4 per cent.**

In those treated on and after the **third day** the mortality was much higher.

**The early administration of Antitoxin is imperative.**



**Larger Doses are Necessary.**—The object in administering Diphtheria Antitoxin is to neutralize, in the shortest possible time, the poison (toxin) circulating in the blood stream and tissue fluids. Dr. William H. Park advises 10,000 units in severe cases for little children, and 20,000 units in severe cases for adults. This is practiced in many leading hospitals.

**Intravenous Injection.**—No case should be considered hopeless. In malignant cases

and late stages of diphtheria recovery may be brought about by the intravenous use of Antitoxin in large doses. The Antitoxin is thus carried directly into the circulation and its activity exerted at once, whereas, if given subcutaneously, only one-tenth of the amount reaches the blood stream at the end of 24 hours.

**The importance of large doses** is appreciated when we consider the impossibility of ascertaining the amount of toxin circulating in the patient's blood. The only safe rule is to give **sufficient antitoxin.** The giving of larger doses than are necessary does no harm; but an insufficient first dose, and in some cases the lack of intravenous injection, may be serious mistakes.

**Diphtheria Antitoxin Mulford** is accurately standardized and repeatedly tested. It is supplied in the Mulford aseptic antitoxin syringes, ready for immediate use, containing 1000, 3000, 5000 and 10,000 units. 20,000 units supplied on special request.

\*Osler states: In 183,526 cases of diphtheria treated in 150 cities previous to the use of antitoxin, the mortality was 38.4. Since the introduction of the antitoxin treatment, records of 132,548 cases show a mortality of 14.6; and leaving out those cases which did not receive serum injection, the mortality is reduced to 9.8. It is estimated that without antitoxin there would be, in the United States, over 64,000 deaths yearly from diphtheria, while the mortality has been reduced by the use of antitoxin to less than 15,000 in the United States alone. This means a saving of over 49,000 lives a year.

**Literature Supplied on Request.**



## H. K. Mulford Company

Manufacturing and Biological Chemists

HOME OFFICE AND LABORATORIES

Philadelphia, U. S. A.





## WASSERMANN TEST \$5.00

All Serological Tests \$5.00. Pathological Examination of Tissue, \$5.00. Autogenous Vaccines, \$5.00. Sputum, Smears, Pus, etc., \$1.00. Urinalysis, Complete Chemical and Microscopical, \$1.50. All other work in keeping with the above low prices. Examinations performed by experts in their respective fields.



Main Laboratory

## We Analyze Everything

Write for our fee table with instructions for sending specimens. Containers and culture media on request.

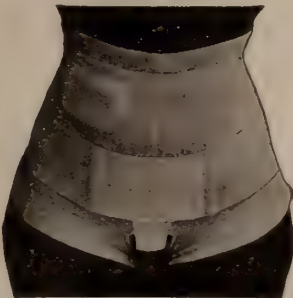
### ACCURACY LABORATORIES

1724-1726 W. Madison Street, CHICAGO, ILL.

Laboratory Instruction Given to Physicians

## The STORM Binder and Abdominal Supporter

PATENTED



Special High Kidney Belt

MEN, WOMEN, CHILDREN AND BABIES

No Whalebones. No Rubber Elastic.  
Washable as Underwear

High and Low Operations, Hernia,  
Relaxed Sacro-iliac Articulations,  
Floating Kidney, Obesity, Preg-  
nancy, Ptosis, Pertussis, etc.

Send for illustrated folder and Testimonials of Physicians.  
Mail Orders filled within Twenty-four Hours.

KATHERINE L. STORM, M. D.  
1541 Diamond St., PHILADELPHIA, PA.

## 50% Better Prevention Defense Indemnity

1. All claims or suits for alleged civil malpractice, error or mistake, for which our contract holder,
2. Or his estate is sued, whether the act or omission was his own
3. Or that of any other person (not necessarily an assistant or agent),
4. All such claims arising in suits involving the collection of professional fees,
5. All claims arising in autopsies, inquests and in the prescribing and handling of drugs and medicines.
6. Defense through the court of last resort and until all legal remedies are exhausted.
7. Without limit as to amount expended.
8. You have a voice in the selection of local counsel.
9. If we lose, we pay to amount specified, in addition to the unlimited defense.
10. The only contract containing all the above features and which is protection per se.

A Sample Upon Request

The  
MEDICAL PROTECTIVE COMPANY  
of Ft. Wayne, Indiana.

Professional  
Protection, Exclusively

## THE GRADWOHL BIOLOGICAL LABORATORIES, St. Louis, Mo.

announce to the profession that their new laboratories are ready for inspection. They are equipped to perform every accepted standardized laboratory procedure that is helpful to the physician in diagnosis and treatment.

We wish to emphasize the fact that in laboratories of this kind workers should not only be technically well trained to do the work, but that the *INTERPRETATION* of every test should be made a feature of their work. We believe that a *Medical Laboratory fails in its function if it neglects to scientifically collect the Medical Findings* gleaned by every-day work and deduce from them the *conclusions* that the *CLINICIAN NEEDS WHEN HE CONSULTS A CLINICAL LABORATORY*.

### SCOPE OF OUR WORK:

**Wassermann Tests** (controlled by  
*Hecht-Weinberg-Gradwohl Test.*)

**Pasteur Treatment** (mail course.)

**Blood Chemical for Nephritis, Gout,  
Diabetes, Rheumatism Diagnosis.**

**Vaccines.**

Moderate Fees, Free Containers, Lucid Literature. - Write us. - Let us assume your laboratory burdens.

## GRADWOHL BIOLOGICAL LABORATORIES

928 N. GRAND AVENUE, ST. LOUIS, MO.

R. B. H. GRADWOHL, M. D., DIRECTOR

ESTABLISHED 1893

## Columbus Medical Laboratory

31 N. STATE ST., CHICAGO

ADOLPH GEHRMAN, Pres.

Send your *pathologic specimens* to us for diagnosis.  
We can assure you a valuable and prompt service.  
Write for instructions and fee table.

Let us make complete examinations in *post-mortem*  
studies.

Ask for advice in cases of *suspected poisoning* and  
toxicological work

Consult us when you have *medico-legal cases*.

## COLUMBUS MEDICAL LABORATORY

Columbus Memorial Building

CHICAGO, ILL.





# CHICAGO LABORATORY

CLINICAL ANALYTICAL

Marshall Field Annex Bldg.

Established 1904

25 EAST WASHINGTON STREET

Telephone Randolph 3610

CHICAGO

## Pathological Tissue Examination

Surgical diagnosis on specimens of tissue may be obtained promptly by frozen section on same day specimen is received.

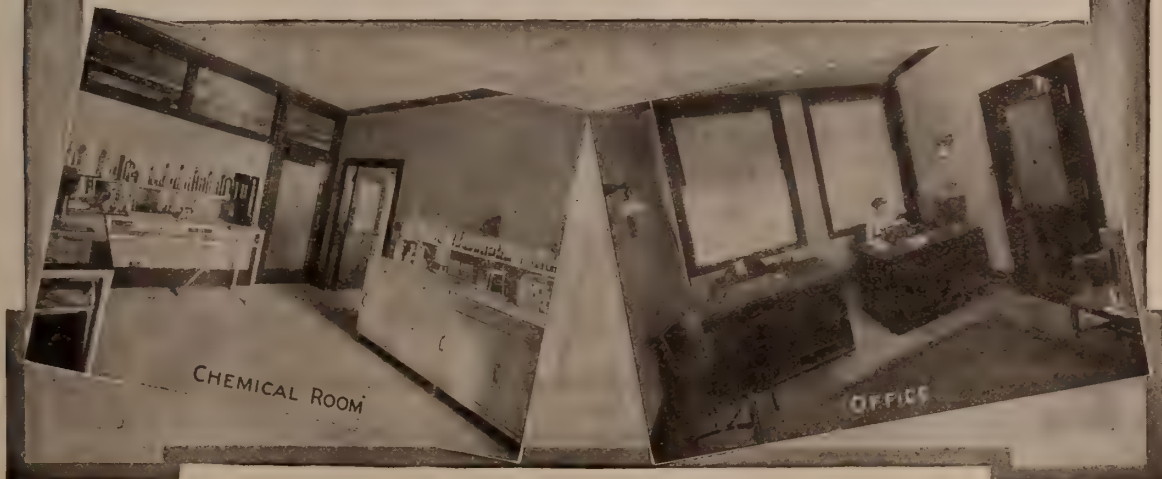
Send for booklet of instructions how to forward tissue and other specimens for examination.

*Our names and reputations stand back of our work*

RALPH W. WEISTER, M.D., Ph.D. Director of Chemical Department

THOMAS L. CAGG, M.D., Director of Pathological Department

C. CHURCHILL CROY, M.D., Director of Bacteriological Department



# Chicago Pasteur Institute

25th YEAR

812 NORTH DEARBORN STREET

CHICAGO

FOR THE PREVENTIVE TREATMENT OF HYDROPHOBIA

ANTONIO LAGORIO, M.D. LL.D., Medical Director

G. B. BRUNO, M.D., Associate Director

FRANK A. LAGORIO, M.D., Associate Director

**Announcement**—Since October, 1910, this institute has taken an advanced progressive step in abandoning the old methods now in vogue, discarding the cords treatment, and in adopting instead the use of the brain substance properly treated and attenuated and rendered safe by having its virulence destroyed. Telephone Superior 973.

*N. B.—We have no branches and the use of our name is unauthorized.*

## AREND-ADAMICK DOUBLE KUMYSS

**AN IDEAL FOOD** for all conditions of enfeebled digestive power from any cause, malnutrition in infants or the aged—a sustaining diet during the course of acute infectious diseases and gastro-intestinal disorders

**EASILY ASSIMILATED** and contains the elements essential for the nourishment of the organism.

**A VALUABLE NUTRIENT** in Typhoid, Enteritis, Marasmus, Acute fevers, Gastric Ulcer, Anemia, Vomiting of Pregnancy, Asthenic fevers and during Convalescence.

Its taste is pleasantly acidulous—its enticing flavor is unusually acceptable to the capricious appetite of the sick—it may be used for days as an exclusive diet.

Booklet giving instructions and interesting clinical report, also price list, free on request.

**A. AREND DRUG COMPANY**

Manufacturing Chemists

182 West Madison Street, Chicago

## CHEMICALLY AND PHYSIOLOGICALLY Standardized Pharmaceutical and Biological Products

**O**URS must conform to a definite standard before we will permit you to purchase them and they cost no more than the ordinary kind.

Write for our Complete Catalog and Special Literature.

## SWAN-MYERS COMPANY

PHARMACEUTICAL and BIOLOGICAL LABORATORIES  
INDIANAPOLIS, INDIANA, U. S. A.



# ILLINOIS STATE MEDICAL SOCIETY

## SECTION OFFICERS AND COMMITTEES

**SECTION ONE**  
 Frederick Tice, Chairman.....Chicago  
 C. Martin Wood, Secretary.....Decatur

**SECTION TWO**  
 James H. Finch, Chairman.....Champaign  
 John S. Nagel, Secretary.....Springfield

**SECRETARY'S CONFERENCE**  
 H. B. Henkel, Chairman.....Springfield

Ossella Blakely, Secretary.....Fairfield

**SECTION ON PUBLIC HEALTH AND HYGIENE**  
 G. F. Ruediger, Chairman.....La Salle  
 Grace H. Campbell.....Chicago

**SECTION ON EYE, EAR, NOSE AND THROAT**  
 R. J. Tivnen, Chairman.....Chicago  
 J. Sheldon Clark, Secretary.....Freeport

## COUNTY SOCIETIES

This list is corrected in accordance with the best information obtainable at the date of going to press.  
 County Secretaries are requested to notify The Journal of any changes or errors.

**Adams County**  
 Dan G. Stine, Pres.....Quincy  
 Elizabeth B. Ball, Secy.....Quincy

**Alexander County**  
 W. F. Grinstead, Pres.....Cairo  
 H. A. Davis, Secy.-Treas.....Cairo

**Bond County**  
 W. T. Easley, Pres.....Greenville  
 J. C. Wilson, Secy.....Greenville

**Boone County**  
 Geo. Markley, Pres.....Poplar Grove  
 H. E. Delavergne, Secy.....Belvidere

**Brown County**  
 D. R. Peters, Pres.....Timewell  
 E. C. Allworth, Secy.-Treas.....Mt. Sterling

**Bureau County**  
 C. C. Barrett, Pres.....Princeton  
 M. A. Nix, Secy.....Princeton

**Calhoun County**  
 W. A. Skeel, Pres.....Kampsville  
 J. H. Peisker, Secy.....Hardin

**Carroll County**  
 W. W. McGrath, Pres.....Savanna  
 R. B. Rice, Secy.-Treas.....Mt. Carroll

**Cass County**  
 C. E. Soule, Pres.....Beardstown  
 W. R. Blackburn, Secy.....Virginia

**Champaign County**  
 J. H. Finch, Pres.....Champaign  
 Wm. V. Secker, Secy.....Champaign

**Christian County**  
 R. C. Danford, Pres.....Pana  
 S. B. Herdman, Secy.....Taylorville

**Clark County**  
 S. W. Weir, Pres.....West Union  
 S. C. Bradley, Secy.....Marshall

**Clay County**  
 C. E. Duncan, Pres.....Flora  
 R. D. Finch, Secy.....Flora

**Clinton County**  
 J. A. Bauer, Pres.....Germantown  
 J. Q. Roane, Secy.....Carlyle

**Coles County**  
 Edmund Summers, Pres.....Mattoon  
 R. H. Craig, Secy.....Charleston

**Cook County**  
 Chas. J. Whalen, Pres.....Chicago  
 C. E. Humiston, Secy.....Chicago

**Crawford County**  
 A. G. Brooks, Pres.....Stoy  
 C. E. Price, Secy.....Robinson

**Cumberland County**  
 N. J. Hauton, Pres.....Greenup  
 DeKalb County

**DeKalb County**  
 L. E. Barton, Pres.....Malta  
 J. B. Hagey, Secy.....DePalb

**De Witt County**  
 J. C. Myers, Pres.....Clinton  
 Charles W. Carter, Secy.....Clinton

**Douglas County**  
 I. N. C. McKinney, Pres.....Murdock  
 Walter C. Blaine, Secy.....Tuscola

**Du Page County**  
 (Affiliated with Cook County)  
 Edgar County

**Edwards County**  
 Wm. A. Buchanan, Pres.....Paris  
 George H. Hunt, Secy.....Paris

**Effingham County**  
 C. S. Brannen, Pres.....Albion  
 W. E. Buxton, Secy.....West Salem

**Effingham County**  
 Geo. Haumesser, Pres.....Effingham  
 F. N. A. Hoffman, Secy.....Effingham

**Fayette County**  
 A. E. Greer, Pres.....Brownstown  
 A. R. Whitefort, Secy.....St. Elmo

**Franklin County**  
 Wm. H. Smith, Pres.....Benton  
 Edgar Austin, Secy.....Benton

**Fulton County**  
 C. N. Allison, Pres.....Canton  
 D. S. Ray, Secy.-Treas.....Cuba

**Gallatin County**  
 J. W. Bowling, Pres.....Shawneetown  
 A. B. Capel, Secy.....Shawneetown

**Greene County**  
 C. R. Thomas, Pres.....Roodhouse  
 H. A. Chapin, Secy.....White Hall

**Grundy County**  
 Roscoe Whitman, Pres.....Morris  
 F. C. Bowker, Secy.....Morris

**Hamilton County**  
 P. M. Nation, Pres.....McLeansboro  
 I. M. Asbury, Secy.....McLeansboro

**Hancock County**  
 Blair Kelley, Pres.....Ferris  
 S. M. Parr, Secy.....Carthage

**Hardin County**  
 W. J. J. Paris, Pres.....Rosiclare  
 F. A. Jones, Secy.....Rosiclare

**Henderson County**  
 W. J. Emerson, Pres.....Carman  
 I. F. Harter, Secy.....Stronghurst

**Henry County**  
 Chas. F. Young, Pres.....Geneseo  
 P. J. McDermott, Secy.....Kewanee

**Iroquois-Ford District**  
 Martha Anderson, Pres.....Roberts  
 D. W. Miller, Secy.....Gilman

**Jackson County**  
 Harriet N. Daniel, Pres.....Murphysboro  
 C. M. Thompson, Secy.....Makanda

**Jasper County**  
 W. E. Franke, Pres.....Newton  
 James P. Prestley, Secy.-Treas.....Newton

**Jefferson County**  
 Todd P. Ward, Pres.....Mt. Vernon  
 Andy Hall, Secy.....Mt. Vernon

**Jersey County**  
 A. A. Barnett, Pres.....Jerseyville  
 H. R. Bohannon, Secy.....Jerseyville

**Jo Daviess County**  
 A. T. Nadig, Pres.....Elizabeth  
 T. J. Stafford, Secy.....Stockton

**Johnson County**  
 C. D. Nobles, Pres.....Buncombe  
 H. W. Walker, Secy.....Grantsburg

**Kane County**  
 W. H. Schwingel, Pres.....Aurora  
 Robt. S. Denney, Secy.-Treas.....Aurora

**Kankakee County**  
 Joseph A. Guertin, Pres.....Kankakee  
 C. F. Smith, Secy.....Kankakee

**Kendall County**  
 R. A. Schaefer, Pres.....Plano  
 Robt. McClelland, Secy.....Yorkville

**Knox County**  
 A. C. Keener, Pres.....Altona  
 G. S. Bower, Secy.....Galesburg

**Lake County**  
 John P. O'Neil, Pres.....Highland Park  
 C. S. Ambrose, Secy.-Treas.....Waukegan

**La Salle County**  
 R. C. Fullenweider, Pres.....La Salle  
 E. E. Perisho, Secy.....Streator

(Continued on page 17)

# TYPHOID PHYLACOGEN

in the opinion of many competent  
clinicians, constitutes

## THE BEST TREATMENT FOR TYPHOID FEVER.

Supplied in bulbs of 10 Cc., one in a carton.

Literature to physicians on request.

### PARKE, DAVIS & CO.

DETROIT, MICHIGAN.



REPORTS FROM EVERYWHERE  
warrant the assumption that



# • IODEOL • INJECTABLE IODINE

(THE ONLY ELECTRO-  
COLLOIDAL IODINE)

## Bids fair to prove uncommonly valuable in the treatment of TYPHOID FEVER

When Ordering, Specify  
Exact Form Needed

IODEOL: 1cc. Ampoules (20% susp.) for intra-muscular injection; 4-grain Capsules (25% susp.—internal); 15½-gm. and 45-gm. Vials (50% susp.—external); Ovules (25% susp.—gynecological).

IODAGOL: 2cc. Ampoules (25% susp.) and Vials of 20-gm. and 45-gm. (25% susp.) for urethral injection.

IODAGOL DRESSING: Vials of 20-gm. and 45-gm. (25% susp.) for wounds and open surfaces.

This is so because, being iodine in the colloidal state and therefore rapidly diffusible, non-irritating, non-caustic, non-cumulative and non-toxic, IODEOL is injectable and ingestable without risk, even in children. Iodine is a powerful penetrative disinfectant. Campanelli reported some years ago that under even ordinary iodine medication, with its limitations, his patients (typhoid) entered into convalescence on the sixth or seventh day. Iodeol is proving its value in this direction every day. Try it. Write Harvey or Levy for the literature.

Send your address on a postcard and it will be placed on the complimentary mailing list of the new medical quarterly, "ELECTRO-COLLOIDAL IODINE THERAPY," keeping you informed of the most approved modern practice in this important field.



### COUNTY SOCIETIES—Continued

Lawrence County	
E. M. Cooley, Pres.	Lawrenceville
Thos. Kirkwood, Secy.	Lawrenceville
Lee County	
Chas. C. Kost, Pres.	Dixon
Edmund B. Owens, Secy.	Dixon
Livingston County	
A. B. Richardson, Pres.	Emington
John Ross, Secy.	Pontiac
Logan County	
W. W. Coleman, Pres.	Lincoln
H. S. Oyler, Secy.	Lincoln
McDonough County	
E. R. Miner, Pres.	Macomb
Geo. S. Duntley, Secy.	Bushnell
McHenry County	
C. W. Goddard, Pres.	Harvard
N. L. Seelye, Secy.	Harvard
McLean County	
Edwin P. Sloan, Pres.	Bloomington
Thos. D. Cantrell, Secy.	Bloomington
Macon County	
M. P. Parish, Pres.	Decatur
F. E. Smith, Secy.	Decatur
Macoupin County	
M. McMahan, Pres.	Palmyra
T. D. Doan, Secy.	Scottville
Madison County	
R. D. Luster, Pres.	Granite City
E. W. Fiegenbaum, Secy.	Edwardsville
Marion County	
G. M. Gimbill, Pres.	Centralia
S. A. Smith, Secy.	Odin
Marshall-Putnam County	
R. R. Eddington, Pres.	Lacon
E. S. Gillespie, Secy.	Wenona

Mason County	
H. O. Rogier, Pres.	Mason City
W. R. Grant, Secy.	Easton
Massac County	
J. A. Orr, Pres.	Metropolis
J. A. Helm, Secy.	Metropolis
Menard County	
W. A. Mudd, Pres.	Athens
L. E. Orr, Secy.	Tallula
Mercer County	
F. J. Rathbun, Pres.	New Windsor
A. N. Mackey, Secy.	Aledo
Monroe County	
S. Kohlenbach, Pres.	Columbia
L. Adelsberger, Secy.	Waterloo
Montgomery County	
Z. V. Kimball, Pres.	Hillsboro
H. F. Bennett, Secy.	Litchfield
Morgan County	
T. O. Hardesty, Pres.	Jacksonville
T. G. McLin, Secy.	Jacksonville
Moultrie County	
C. W. Taylor, Pres.	Bethany
O. M. Williamson, Secy.	Sullivan
Ogle County	
L. M. Griffin, Pres.	Polo
J. T. Kretsinger, Secy.	Leaf River
Peoria City Medical Society	
C. D. Thomas, Pres.	Peoria
E. W. Oliver, Secy.	Peoria
Perry County	
J. S. Templeton, Pres.	Pickneyville
J. D. Byrne, Secy.	Du Quoin
Platt County	
W. G. McPharson, Pres.	Bement
B. L. Barker, Secy.	Monticello
Pike County	
R. P. Wells, Pres.	Pleasant Hill
W. E. Shastid, Secy.	Pittsfield

(Continued on page 29)



## THE OTTAWA TUBERCULOSIS COLONY

OTTAWA, ILL.

is devoid of the "institutional atmosphere."  
It is designed and conducted to meet the  
requirements of patients who demand



### Privacy and Individual Attention

*Special consideration is given  
to Quality of Service*

Rates \$22.00 to \$35.00 per week

H. V. PETTIT, Supt.

OTTAWA

ILLINOIS



## Chicago Fresh Air Hospital

(FOR TUBERCULOSIS)

*At Rogers Park, Chicago, Illinois*

Patients received in *all* stages of Pulmonary Consumption.

Private Rooms and Board, \$25.00 per week.

Open Porch and two-bed Rooms, with Board, \$14.00.

**Tuberculin Treatment  
Artificial Pneumo-Thorax**

**DR. ETHAN A. GRAY,**

*Medical Superintendent.*

## THE POTTENGER SANATORIUM

MONROVIA, CALIFORNIA

FOR DISEASES OF THE LUNGS AND THROAT



A thoroughly equipped institution for the scientific treatment of tuberculosis. High class accommodations. Ideal all-year-round climate. Surrounded by orange groves and beautiful mountain scenery, 45 minutes from Los Angeles.

F. M. POTTENGER, A.M., M.D. LL.D.,  
Medical Director.

J. E. POTTENGER, A.B., M.D., Assistant  
Medical Director and Chief of Laboratory.

GEORGE H. EVANS, M.D. San Francisco,  
Medical Consultant.

For Particulars, Address THE POTTENGER SANATORIUM, Monrovia, California  
LOS ANGELES OFFICE, 1100-1101 TITLE INSURANCE BUILDING, FIFTH AND SPRING STREETS



## EDWARD SANATORIUM

For the Treatment of Incipient Pulmonary Tuberculosis  
NAPERVILLE, ILLINOIS



Established 1907. Attractive surroundings. Large grounds. Open-air sleeping cottages and Infirmary with all appointments necessary for the comfort of the patients.

Modern hygienic-dietetic methods of treatment. Medical and laboratory facilities. Resident physicians and trained nurses.

**Tuberculin Treatment and Artificial Pneumothorax in suitable cases**

*For detailed information, rates and rules of admission, apply to*

**CHICAGO TUBERCULOSIS INSTITUTE, 8 South Dearborn Street, Room 1212, CHICAGO, ILL.**



On Main Line Chicago, Milwaukee & St. Paul Railway  
30 Miles West of Milwaukee

## Oconomowoc Health Resort

OCONOMOWOC, WISCONSIN

**For Nervous and Mild Mental Diseases**

**Building New, Most Approved Fireproof Construction**

**ARTHUR W. ROGERS, M.D., Resident Physician in Charge**

**LONG DISTANCE TELEPHONE**

Built and equipped to supply the demand of the neurasthenic, borderline and undisturbed mental case for a high class home free from contact with the palpable insane, and devoid of the institutional atmosphere. Forty-one acres of natural park in the heart of the famous Wisconsin Lake Resort Region. Rural environment, yet readily accessible. The new building has been designed to encompass every requirement of modern sanitarium construction, the comfort and welfare of the patient having been provided for in every respect. The bath department is unusually complete and up-to-date. Number of patients limited, assuring the personal attention of the resident physician in charge.

**Trains and at Oconomowoc on request.**

## The Norbury Sanatorium

JACKSONVILLE ILLINOIS

*Established by Dr. Frank P. Norbury, 1901*

**Incorporated and Licensed**

**“Maplewood” — “Maplecrest”**

**Capacity Forty Beds**

**PRIVATE RESIDENTIAL HOMES** for the treatment of Nervous and Mental Disorders. Especial attention given to the treatment, by approved modern methods, of the Psychoneuroses, Exhaustion states and selected Psychoses and addiction cases.

**Dr. FRANK P. NORBURY,**  
Medical Director. (Late  
Allenist, State Board of Ad-  
ministration. Formerly  
Supt. Kankakee State Hos-  
pital.)

**DR. ALBERT H. DOLLEAR**  
Superintendent (Late  
Clinical Asst., State Psycho-  
pathic Institute, Kankakee,  
Formerly Asst. Supt., Water  
town State Hospital.)

**Address all communications, THE NORBURY SANITARIUM, 806 South Daimond Street, JACKSONVILLE, ILLINOIS**  
Springfield Office, DR. FRANK P. NORBURY, 407 South Seventh Street, by appointment

# Kenilworth Sanitarium

(Established 1905)

## KENILWORTH, ILLINOIS

(C. & N.-W. Railway. Six miles north of Chicago)



All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois

Built and equipped for the treatment of nervous and mental diseases. Approved diagnostic and therapeutic methods. An adequate night nursing service maintained. Sound proof rooms with forced ventilation. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.

### Resident Medical Staff

Margaret S. Grant, M. D., Sherman Brown, M. D.,  
Sanger Brown, M. D.,  
Chicago Office: 59 E. Madison Street,  
Telephone: Randolph 5794 Hours: 11 to 1, by appointment only



Established 1867

# BELLEVUE SANITARIUM

BATAVIA, ILLINOIS  
near CHICAGO

*For Nervous and Mental Diseases  
of Women Only*

Restful, homelike and accessible. Treatment modern,  
scientific and ethical.

TERMS MODERATE.

WRITE FOR BOOKLET



# The Hygeia Hospital

Formerly  
The Hygeia Sanitarium

Is the only institution in the Middle West

**exclusively treating Drug and Alcohol Addiction**  
by the method given to the medical profession through the Journal A. M. A.; June, 1913.

Patients freed from their habit and craving without suffering or publicity. By means of clinical and laboratory examinations, the treatment is adapted to the condition of the individual.

A fixed charge is made, covering all ordinary expenses.

Reprints and other information sent on request.

Wm. K. McLaughlin, M. D.  
Med. Supt.

2715 Michigan Boulevard  
CHICAGO, ILL.



BUILDING ABSOLUTELY FIRE-PROOF

# Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF

**NERVOUS DISEASES**

BYRON M. CAPLES, M.D., Superintendent

Waukesha

::

Wisconsin



# NEURONHURST

Dr. W. B. Fletcher's Sanatorium



**For Treatment of Mental and Nervous Diseases, Including Legally Committed and Voluntary Cases**

Well equipped with all facilities for the care and treatment of all forms of mental and nervous diseases, inebriety, drug addiction and those requiring recuperation and rest. Gynecological department is in charge of skilled women physicians. All approved forms of Hydrotherapy, Balneotherapy, Massage, Swedish Movements, etc. All forms of Electrical Treatments, Phototherapy, High Frequency and X-Ray work. A strictly ethical institution. Correspondence with physicians invited. For particulars and terms, address:

**DR. MARY A. SPINK, Superintendent.** Long Distance Telephones **1140 E. Market St., INDIANAPOLIS**

## DR. SIDNEY D. WILGUS

Retiring Superintendent of Kankakee State Hospital, also former Superintendent of Elgin State Hospital.

### Begs to Announce

**that he has purchased a Sanitarium at Rockford, Ill. (The Ransom)**

and is prepared to give personal care and attention to mental and nervous cases and drug addictions. Modern features having been added, the equipment is qualified to give up-to-date treatment. Also tennis, croquet, boating, and other out-door exercises are prescribed. A nine-hole golf course is near by. Correspondence solicited, or, to save time, telephone: Long Distance, Rockford 3767, and reverse the charges. On request patients are met at any train with an automobile.

**Mail address, DR. SIDNEY D. WILGUS, Box 304, Rockford, Ill.**

**Chicago Office. Thursday Mornings until 12 at Suite 1603, 25 E. Washington St. And by appointment**



ENTRANCE

WEST HOUSE

OFFICE AND BATH HOUSE

PSYCHOPATHIC HOSPITAL

GYMNASIUM

**ESTABLISHED  
IN 1884**

## THE MILWAUKEE SANITARIUM FOR NERVOUS AND MENTAL DISEASES

**WAUWATOSA,  
WIS.**

Located at Wauwatosa (a suburb of Milwaukee) on C. M. & St. P. Ry., 2 1/2 hours from Chicago, 15 minutes from Milwaukee, 5 minutes from all cars. Two lines street cars. Complete facilities and equipment as heretofore announced. † New Psychopathic Hospital: Continuous baths, fire-proof building, separate grounds. † New West House: Rooms en suite with private baths. † New Gymnasium and Recreation Building: Physical culture, new "Zander" machines, shower baths. † Modern Bath House: Hydrotherapy, Electrotherapy, Mechano-therapy. † 30 acres beautiful hill, forest and lawn. Five houses. Individualized treatment. Descriptive booklet will be sent upon application.

**RICHARD BEWEY, A. M., M. D.**

**EUGENE CHANEY, A. M., M. D.**

**J. E. ROBINSON, M. D.**

**CHICAGO OFFICE**  
Marshall Field Annex Building  
25 East Washington Street  
Wednesdays 1 to 3, except July and August



## The Cincinnati Sanitarium For Mental and Nervous Diseases

Incorporated 1873

A strictly modern hospital fully equipped for the scientific treatment of nervous and mental affections. Situation retired and accessible. For details write for descriptive pamphlet.

F. W. Langdon, M. D., Medical Director

B. A. Williams, M. D., Resident Physician

Emerson A. North, M. D., Resident Physician

H. P. COLLINS, Business Manager, Box No. 4, College Hill, Cincinnati, Ohio



ABSOLUTELY FIREPROOF BUILDING

LESS THAN THREE HOURS FROM CHICAGO

## Mud Baths

For the treatment of RHEUMATISM, Nervousness, Kidney, Liver and Skin Diseases, and all ailments requiring elimination and relaxation. Location beautiful; climate healthful; 80 acres of private grounds.

DR. AUGUSTUS S. GILLES, Medical Director

*Correspondence with physicians solicited*

For rates, literature and reservations, address

**Waukesha Moor (Mud) Bath Co.**

WAUKESHA, WISCONSIN

## Burr Oak Sanatorium

For the Treatment of Tuberculosis

WHEATON, ILL.

A small home-like Sanatorium devoid of the institutional atmosphere. Beautiful grounds and surroundings; conscientious, individual attention. Fresh milk and eggs from the farm. Excellent table. Rates \$9.00 per week.

D. C. MOULDING, M.D., Physician-in-Charge

Chicago Office, Room 340, 440 So. Dearborn St.

Hours: 12 to 2 P. M., Mondays and Wednesdays

## The Peoria Mud Baths

We insist that your patients can eliminate as freely and as effectually in Illinois as in any other State in the Union.

Strict ethical relations. Thoroughly equipped. Have had thousands of patients. The only developed mineral springs in the State. One hundred rooms devoted to baths.

DR. E. W. OLIVER, Medical Supt.

**SULPHUR SPRINGS SANITARIUM**

215-217 N. Adams St. Peoria, Illinois





## DR. WEIRICK'S SANITARIUM

FORMERLY DR. BROUGHTON'S SANITARIUM  
ESTABLISHED IN 1901

**For Opium, Morphine  
Cocaine and Other Drug  
Addictions, Including  
Alcohol and Special  
Nervous Cases**

Methods easy, regular, humane.  
Good heat, light, water, help, board,  
etc. Number limited to 44. A well  
kept home. Nervous-Mental De-  
partment in charge of Dr. W. L.  
Ransom. Address

**DR. G. A. WEIRICK**  
SUPERINTENDENT

**2007 South Main Street**

Phone 536  
**Rockford - - - Illinois**

**PETTEY & WALLACE**  
958 S. Fifth Street  
MEMPHIS, TENN. **SANITARIUM**



FOR THE TREATMENT  
OF

**Drug Addiction, Alcoholism,  
Mental and Nervous Diseases**

A quiet, home-like, private, high-  
class institution. Licensed. Strictly  
ethical. Complete equipment. Best  
accommodations.

Resident physician and trained  
nurses.

Drug patients treated by Dr.  
Petty's original method.

Detached building for mental  
patients.

# The Peoria Sanatorium

A private Sanatorium for the treatment of Nervous and Mental Diseases,  
by modern methods. Flowing Sulphur Spring. Licensed by the State.

**DRUG AND LIQUOR HABITS TREATED**

WRITE FOR BOOKLET

**Director, DR. GEO. W. MICHELL**

**PHONE MAIN 225.**

**Address, 106 N. Glen Oak, PEORIA, ILL.**

# READER!

are you buying your supplies from our advertisers?

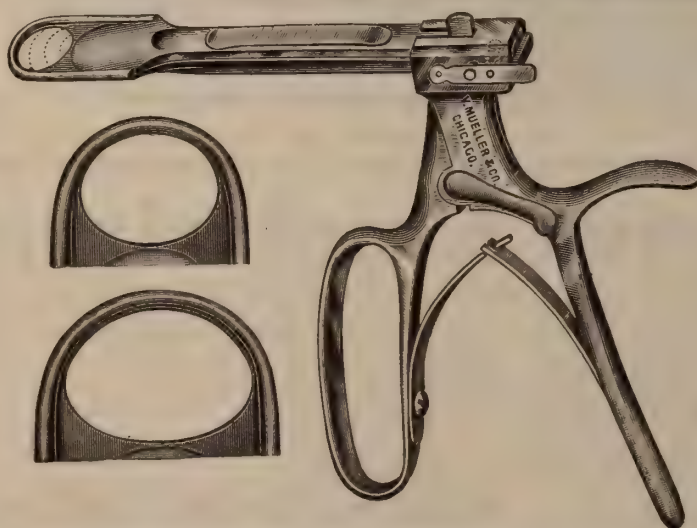
Our advertising pages are your property as a member of the Illinois State Medical Society.

Advertisers will pay for space in proportion as you buy from them, and thus make the space valuable to them.

Order now, and write that you saw the "ad" in the JOURNAL.

## DR. A. M. CORWIN'S IMPROVED Sluder-Ballenger Guillotine For Tonsillectomy

*Learn How to Use It—Write for Information*



**Simple—Powerful—Durable  
Quickly Adjustable—Reliable**

*This is the only  
Official Pattern, Avoid Crude  
Cheap Imitations*

An improperly formed instrument will not perform the Sluder operation WELL as it should be done in every case.

**V. MUELLER & CO.**  
Makers of Surgeons' Instruments  
1771-81 Ogden St., CHICAGO



# Chicago College of Medicine and Surgery

**MEDICAL  
DEPARTMENT OF  
VALPARAISO  
UNIVERSITY**



**702-706  
SO. LINCOLN ST.  
CHICAGO, ILL.**

**Main College Building and Willard Hospital**

This College has an enrollment of 500 students. The Laboratory and Hospital facilities are abundant.  
The Faculty consists of men who have distinguished themselves as medical educators.  
The College is not burdened with debts and is therefore able to expend all of its income upon the courses of instruction.  
The Calendar year is divided into three semesters of four months each. The Fall semester begins on the last Tuesday in September. The Winter semester begins on the first Monday in February. The Summer semester begins on the first Monday in May.

*For catalogue or further information address*

**J. NEWTON ROE, Secretary**

**706 S. Lincoln St., Chicago, Ill.**

## Chicago Eye, Ear, Nose and Throat College

**A Post-Graduate School for Prac-  
titioners of Medicine**

**235 W. Washington Street  
Chicago, Ill.**

**Catalogue on Application**

## THE COLLEGE OF MEDICINE of the UNIVERSITY OF ILLINOIS



Minimum admission requirements to the Freshman year, fifteen units of work from an accredited high school and in addition two years in a recognised university or college involving at least one year in college physics, biology, chemistry and six college hours in French or German.  
For course of Medical study, four years are required. Eligible students will receive the degree of B. S. at the completion of the Sophomore year. ¶ Well equipped laboratories and good hospital facilities.

¶ Excellent location in the heart of Chicago's great medical center.  
¶ Collegiate year begins September 28th, 1916. ¶ For full information concerning course of study, fees, etc., address Secretary, Box 51 COLLEGE OF MEDICINE of the UNIVERSITY OF ILLINOIS Congress and Honore Streets Chicago, Illinois

## Chicago Maternity Hospital and Training School for Nurses

**ACCOMMODATES 25 PATIENTS  
RATES: \$10.00 to \$25.00 PER WEEK**

Well infants cared for in nursery for \$5.00 per week.  
Training School for Obstetrical and Infants' nurses.

Address

**EFFA V. DAVIS, M.D., 2314 N. Clark St., Chicago**

## "BEVERLY FARM"

**— HOME AND SCHOOL —**

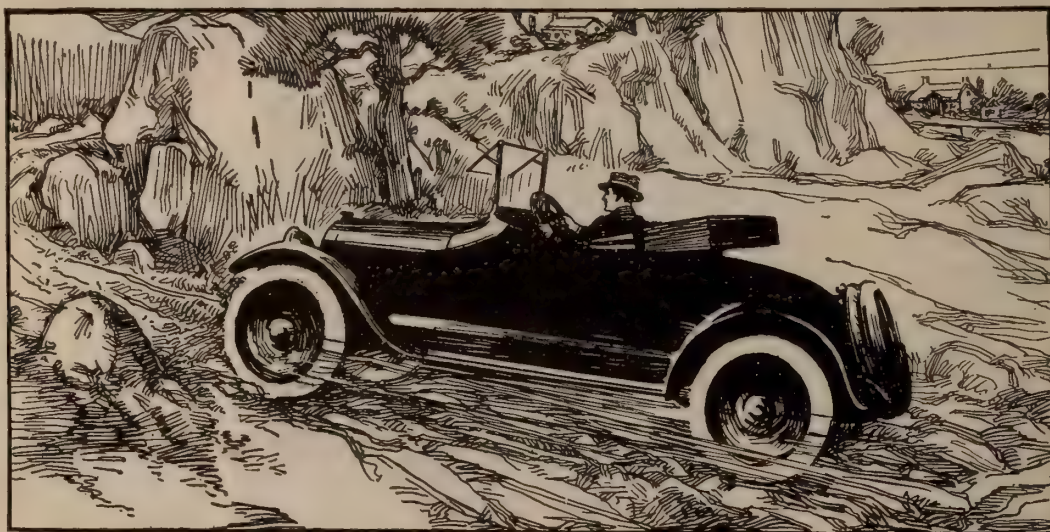
**For Nervous and Backward Children**

Separate buildings for boys, girls and children under 10 years of age. Thirty-three years experience in this work. A brick school house and gymnasium. One hundred and seventy-five acres of land, forty of which has fine timber with log cabin.

Consultation at home if desired. Publicity avoided.  
Address all communications to

**W. H. C. SMITH, M. D., Superintendent  
Godfrey, Madison Co., Ill.**

*"Beverly Farm" was awarded a grand prize by the committee of awards of the Louisiana Purchase Exposition.*



# Doctor, You Know That Delays Are Dangerous!

You can't abide jerky power or a motor that is unreliable. If you use Polarine, lubrication begins the minute your engine starts.

Friction is minimized—Polarine covers even the remotest friction surface—Polarine minimizes repairs and adds power and life to your motor. The temperature does not affect its perfect lubricating properties.

## Polarine

FRICION REDUCING MOTOR OIL

flows as freely at zero as at 100 degrees. It maintains the correct lubricating body at any motor speed or temperature.

The Standard Oil Company recommends its use for any make or style of car. Order a half barrel today. It costs less that way than in smaller quantities.

Standard Oil Company (Indiana) Chicago, U. S. A.

Use Red Crown Gasoline and get more power, more speed, more miles per gallon



## BUYER'S INDEX

Abbott Laboratories.....	7	Mellin's Food Co.....	6
Accuracy Laboratories.....	11	Milwaukee Sanitarium.....	21
Alexander, Dr. H. M., Co.....	9	Mueller & Co., V.....	24
A. Arend Drug Co.....	14	Mulford, H. K., & Co.....	10
Bayer Company.....	7	Norbury Sanitarium.....	19
Bellevue Sanitarium.....	20	Oconomowoc Health Resort.....	19
Bevely Farm School.....	25	Ottawa Tuberculosis Colony.....	18
Burr Oak Sanatorium.....	22	Parke, Davis & Co.....	16
Chicago College of Medicine and Surgery.....	25	Pennoyer Sanitarium.....	6
Chicago Eye, Nose & Throat College.....	25	Peoria Mud Baths.....	22
Chicago Fresh Air Hospital.....	18	Peoria Sanatorium.....	23
Chicago Laboratory.....	13	Petty & Wallace's Sanitarium.....	23
Chicago Laboratory of Surgical Technique.....	12	Phillips Co., Chas. H.....	28
Chicago Maternity Hospital.....	25	Pitman-Moore Co.....	4
Chicago Med. Soc. Milk Com.....	32	Pottenger Sanitarium.....	18
Chicago Pasteur Institute.....	14	Pure Gluten Food Co.....	5
Cincinnati Sanitarium.....	22	Quaker Oats Co.....	5, 29
College of Medicine, Univ. of Ill.....	25	Ransom Sanitarium.....	21
Cocroft, Susanna.....	22	Saunders Co., W. B.....	front cover
Columbus Medical Laboratory.....	12	Searle & Co., G. D.....	6
Crittenton, Chas. N. Co.....	30	Sharp & Dohme.....	2
Edward Sanatorium.....	19	Sherman, G. H., M. D.....	5
Fletcher's Sanatorium.....	21	Standard Oil Co.....	3, 26
Gradwohl Biological Laboratories.....	12	Storm, Katherine L., M. D.....	11
Harvey, G. F.....	17	Sulphur Springs Sanitarium.....	23
Horlick's Malted Milk Co.....	2	Swan-Myers Co.....	14
Hygeia Hospital.....	20	Tilden Co., The.....	6
Kenilworth Sanitarium.....	20	Waukesha Moor (Mud) Bath Co.....	22
Lederle Antitoxin Laboratory.....	31	Waukesha Springs Sanitarium.....	20
Medical Protective Co.....	11	Weirick's Sanitarium.....	28
Mead, Johnson & Co.....	4		

## INDEX TO ADVERTISERS

## ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D.....	11
--------------------------------	----

## AUTOMOBILES, ETC.

Goodyear Tire & Rubber Co.....	25
Standard Oil Co.....	3, 30

## FOOD

Arend-Adamick Koumyss.....	14
Certified Milk.....	4
Horlick's Malted Milk Co.....	2
Mead, Johnson & Co.....	6
Mellin's Food Co.....	6
Pure Gluten Food Co.....	5, 29
Quaker Oats.....	5, 29

## HOSPITAL

Chicago Fresh Air Hospital.....	18
Chicago Maternity Hospital.....	25
Hygeia Hospital.....	20

## INVESTMENTS AND INSURANCE

Medical Protective Co.....	11
----------------------------	----

## LABORATORY

Abbott Laboratories.....	7
Accuracy Laboratories.....	11
Chicago Laboratory.....	13
Chicago Laboratory of Surgical Technique.....	12
Columbus Medical Laboratory.....	12
Gradwohl Biological Laboratories.....	12
Swan-Myers Co.....	14

## MEDICAL BOOK PUBLISHERS

Saunders Co., W. B.....	front cover
-------------------------	-------------

## MEDICAL SCHOOLS

Chicago College of Medicine and Surgery.....	25
Chicago Eye, Ear, Nose & Throat College.....	25
College of Medicine, Univ. of Ill.....	25

## MUD BATHS

Peoria Mud Baths.....	22
Waukesha Moor (Mud) Bath Co.....	22

## PHARMACEUTICALS

Abbott Laboratories.....	7
Alexander, Dr. H. M., Co.....	9
Bayer Company.....	7
Crittenton, Chas. N. Co.....	30
Harvey, G. F.....	17
Hygeia Sanitarium.....	17
Kenilworth Sanitarium.....	20
Lederle Antitoxin Laboratory.....	31
Mead, Johnson & Co.....	4
Mulford, H. K., & Co.....	10
Parke, Davis & Co.....	16
Phillips Co., Chas. H.....	28
Pitman-Moore Co.....	4
Sherman's Bacterins.....	5
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Swan-Myers Co.....	14
Tilden Co., The.....	6

## SANATORIA &amp; SANITARIA

Bellevue Sanitarium.....	20
Burr Oak Sanitarium.....	22
Cincinnati Sanitarium.....	22
Edward Sanatorium.....	19
Fletcher's Sanatorium.....	21
Norbury Sanitarium.....	19
Milwaukee Sanitarium.....	21
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Pennoyer Sanitarium.....	6
Peoria Sanitarium.....	23
Petty & Wallace's Sanitarium.....	23
Pottenger Sanitarium.....	18
Ransom Sanitarium.....	21
Sulphur Springs Sanitarium.....	23
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium.....	23

## SURGICAL INSTRUMENTS

Mueller & Co., V.....	24
-----------------------	----

IN PLACE OF OTHER ALKALIES USE

# Phillips' Milk of Magnesia

"THE PERFECT ANTACID"

For Correcting Hyperacid Conditions—Local or Systemic. Vehicle for Salicylates, Iodides, Balsams, Etc.

Of Advantage in Neutralizing the Acid of Cows' Milk for Infant and Invalid feeding.

## Phillips' Phospho-Muriate of Quinine

Compound

NON-ALCOHOLIC TONIC AND RECONSTRUCTIVE

With Marked Beneficial Action Upon the Nervous System. To be relied Upon Where a Deficiency of the Phosphates is Evident.

THE CHAS. H. PHILLIPS CHEMICAL CO.  
NEW YORK LONDON

### CONTENTS—Continued

#### ORIGINAL ARTICLES—Continued.

The Value of the Skiagraph in the Diagnosis of Mastoid Disease. George E. Shambaugh, M. D., Chicago.....	193
Post-Nasal Cauterization in the Treatment of Chronic Constriction of the Eustachian Tubes. Alexander S. Rochester, M. D., Chicago.....	195
Comparative Value of Indirect and Direct Laryngoscopy. Stanton A. Friedberg, M. D., Chicago.....	197
Examination of the Discharge in Mastoid Disease. Albert H. Andrews, M. D., Chicago.....	198
The Danger of Incomplete Examination in Nasal Conditions. C. H. Long, M. D.....	200
Review of the Principal Operative Measures Advocated in the Removal of the Fauical Tonsils. A. B. Middleton, M. D., Pontiac, Ill.....	202
The Prognosis and Treatment of the Common Intracranial Complications of Nose, Throat and Ear Infections. Norval H. Pierce, M. D., Chicago.....	203

#### EDITORIAL.

Help Nominate the Doctors.....	208
Dr. Farrell a Candidate.....	208
Dr. Nance a Candidate.....	209
Notice.....	209
Dr. John B. Murphy.....	210
Dr. James E. Stubbs.....	209
Illinois State Medical Society in 1854.....	211

#### CORRESPONDENCE.

G. Frank Lydston Letter.....	212
Results of Physicians' Examinations.....	212
U. S. Public Health Service.....	213
Tuberculosis Notes.....	213

#### PUBLIC HEALTH.

Typhoid Fever at Elgin.....	214
New Circular on Tuberculosis.....	214
New Cards for Epidemic Investigations.....	215

#### AUTO SPARKS AND KICKS.

Gasoline Pumps.....	216
---------------------	-----

#### SOCIETY PROCEEDINGS.

Fulton County.....	217
Jo Daviess County.....	217
Macoupin County.....	218
Madison County.....	218
Ogle County.....	219
Personals.....	219
News.....	220
Marriages.....	221
Obituary.....	221
Deaths.....	222
New and Non-Official Remedies.....	222
Book Notices.....	223



**COUNTY SOCIETIES—Continued.**

**Pope County**  
J. A. Fisher, Pres.....Brownsfield  
L. S. Barger, Secy.....Golconda

**Pulaski County**  
J. F. Hagan, Pres.....Mound City  
W. R. Wesenberg, Secy.....Mound City

**Randolph County**  
Wm. R. McKenzie, Pres.....Chester  
John P. Grimes, Secy.-Treas.....Menard

**Richland County**  
A. T. Telford, Pres.....Olney  
E. H. Horner, Secy.....Olney

**Rock Island County**  
Geo. A. Wiggins.....Milan  
A. E. Williams, Secy.....Rock Island

**St. Clair County**  
B. H. Portuondo, Pres.....Belleville  
A. E. Hansing, Secy.....Belleville

**Saline County**  
M. D. Impson, Pres.....Brushy  
E. W. Cummins, Secy.....Harrisburg

**Sangamon County**  
Arthur E. Prince, Pres.....Springfield  
H. B. Henkel, Secy.....Springfield

**Schuyler County**  
A. W. Ball, Pres.....Rushville  
J. C. Steiner, Secy.....Rushville

**Scott County**  
J. W. Eckman, Pres.....Winchester  
H. H. Fletcher, Secy.....Winchester

**Shelby County**  
F. A. Martin, Pres.....Tower Hill  
Frank P. Auld, Secy.....Shelbyville

**Stark County**  
James R. Holgate, Pres.....Wyoming  
Clyde Berfield, Secy.....Toulon

**Stephenson County**  
W. B. Peck, Pres.....Freeport  
N. C. Phillips, Secy.....Freeport

**Tazewell County**  
H. L. Yoder.....Morton  
F. C. Gale, Secy.....Pekin

**Union County**  
G. W. Marrow, Pres.....Anna  
E. V. Hale, Secy.....Anna

**Vermillion County**  
A. E. Dale, Pres.....Danville  
O. H. Crist, Secy.....Danville

**Wabash County**  
P. G. Manley, Pres.....Mt. Carmel  
A. A. Aukerbrandt, Secy.....Mt. Carmel

**Warren County**  
Philo B. Conant, Pres.....Roseville  
H. M. Camp, Secy.....Monmouth

**Washington County**  
D. S. Neer, Pres.....Beaumont  
P. B. Rabenneck, Secy.....Nashville

**Wayne County**  
T. J. Hilliard, Pres.....Fairfield  
Ostella F. Blakely, Secy.....Fairfield

**White County**  
C. B. Staley, Pres.....Enfield  
John Niess, Secy.....Carmi

**Whiteside County**  
W. H. Durkee, Pres.....Fulton  
H. N. Schmaling, Secy.....Fulton

**Will County**  
A. L. Schreffler, Pres.....Joliet  
Marion K. Bowles, Secy.....Joliet

**Williamson County**  
J. G. Farmley, Pres.....Marion  
H. A. Felts, Secy.....Marion

**Winnebago County**  
D. B. Penniman, Pres.....Argyle  
C. M. Ranseen, Secy.-Treas.....Rockford

**Woodford County**  
F. W. Nickel, Pres.....Minonk  
H. A. Millard, Secy.....Minonk



Queen Grains

Starved Grains

# Oat Flakes As You Want Them

We select the oats for Quaker Oats by 62 separate siftings. Thus we select just the big, plump grains—queen oats only. We get but ten pounds from a bushel.

These oats produce flakes which are large, white and luscious—flakes with a wondrous flavor. Yet they cost no extra price.

When you advise oat flakes, this is the grade you want. It fosters the love of oat-food, and makes it a luxury dish.

# Quaker Oats

## Queen Grains Flaked

Connoisseurs of a hundred nations send here for Quaker Oats. Even in Britain—the home of Scotch oats and Irish—this is the leading brand. That fact is due to this extra flavor, maintained for many years.

**Regular Package 10c**  
*Except in Far West and South*

**The Quaker Oats Company**

Chicago

(1386)

## READER!

are you buying your supplies from our advertisers?

Our advertising pages are your property as a member of the Illinois State Medical Society.

Advertisers will pay for space in proportion as you buy from them, and thus make the space valuable to them.

Order now, and write that you saw the "ad" in the JOURNAL.

## WANTED, FOR SALE, AND RENT DEPARTMENT

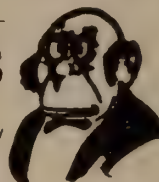
Advertisements under this heading cost one dollar for four lines or less, and 25 cents for each additional line, each insertion. Payable in advance. Line holds eight ordinary words.

### "NEVERSSSLIP" UMBILICAL CORD LIGATURE

Our ethical "Sales System" increases your obstetric calls through your jobber's O. K. How? "NSS" Sales Co., Wenona, Ill.

I AM SORRY I  
did NOT advertise

— in the —  
ILLINOIS  
MEDICAL  
JOURNAL



## Doctor—

*Read carefully and  
learn what you  
will receive, if  
you join the  
Illinois  
State Medical  
Society*

### QUALIFICATIONS FOR MEMBERSHIP

Every registered physician residing in Illinois, as may be authorized by the State Society, who is of good moral and professional standing, and who does not claim to practice any exclusive system of medicine, shall be eligible for membership.

YOU get medico-legal protection, membership in your County Medical and Illinois State Medical Societies, and the Illinois Medical Journal. Membership in these makes you eligible to membership in the American Medical Association.

1. MEMBERSHIP IN THE ILLINOIS STATE MEDICAL SOCIETY. All members of a County Medical Society are *ipso facto* members of the State Society and receive all publications of the State Society without additional fees, dues or subscriptions. The Illinois State Medical Society is one of the greatest local medical organizations in the world. Affiliation and association with this large and representative body of men is of great value and importance to every physician.

2. MEDICAL DEFENSE. Out of your annual dues the trustees of your County Medical Society are required to turn \$1.00 over to the "medical defense committee" for the protection and defense of members of the society against whom suits for malpractice or damages may be brought. For years the Illinois State Medical Society has been meeting all expenses of such litigation—court costs, attorney's fees, costs of appeals, witness fees, the cost of record—no limitation being placed on the expense of an individual case.

This means protection against suits for damages for alleged malpractice, as well as attempted blackmail. This one feature alone is worth many times the cost of membership. Private defense companies are charging \$15.00 per year and upwards for the defense feature alone.

Come to the next meeting of the local society of the District in which you live and meet the other physicians of your neighborhood. Fill out the application blank on advertising page 4 and send it, together with membership fee, to the Secretary of your County Society, and thus secure the benefits mentioned.



# Hay Fever

## Convincing Clinical Data Prove Value of Pollen Vaccine

**D**URING 1915, LEDERLE'S *Pollen Vaccine* was used by over 600 physicians for the prophylaxis and treatment of Hay Fever. The clinical data submitted to us show *83 per cent favorable results* from Pollen Vaccine as a prophylactic against Hay Fever, and *89 per cent favorable results* in the treatment of Hay Fever. Asthmatic symptoms were relieved in 84.2 per cent of the cases.

LEDERLE'S is a combined *Pollen Vaccine* containing pollen from all the common grasses, weeds and flowering plants which are known to be important in causing hay-fever in the spring and fall.

Lederle's POLLEN VACCINE is supplied in the following packages:

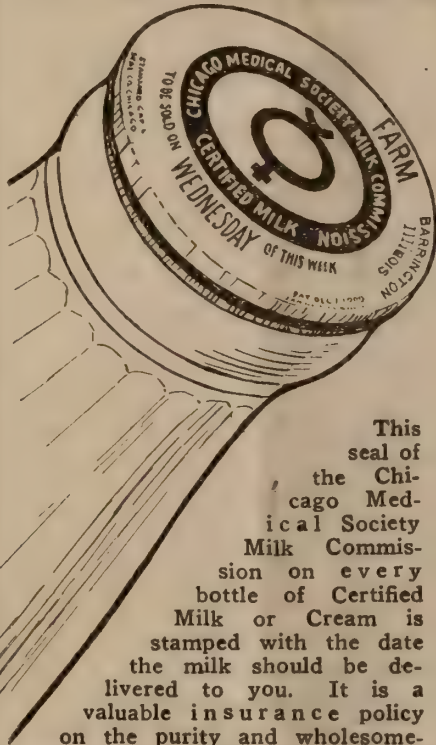
- |  |                |
|--|----------------|
| 1. Complete vaccine treatment, containing doses 1 to 15, inclusive. Price..... | <b>\$15.00</b> |
| 2. Series A, containing doses 1 to 5 only. Price.....                          | <b>5.00</b>    |
| 3. Series B, containing doses 6 to 10 only. Price.....                         | <b>5.00</b>    |
| 4. Series C, containing doses 11 to 15 only. Price.....                        | <b>5.00</b>    |

Booklet sent on request.

**Lederle Antitoxin Laboratories**

**Schieffelin & Co., Distributors**

**New York**



This seal of the Chicago Medical Society Milk Commission on every bottle of Certified Milk or Cream is stamped with the date the milk should be delivered to you. It is a valuable insurance policy on the purity and wholesomeness of your milk.

# Certified Milk Is PURE Milk

and every drop is clean.

Certified to by the Chicago Medical Society Milk Commission, under whose rigid inspection every drop of Certified Milk is produced.

Clean and proper feed, clean cows, clean milkers, clean barns, sterilized bottles sealed and kept in ice at 45° until delivered at your door. **EVERY STEP OF EVERY DROP** of Certified Milk keeps it clean and pure from the cow's feed right up to your door.

Nothing is done to Certified Milk except keep it pure. It is never mixed with other milk—it is never treated in any way. It is the product of pure food fed to healthy cows, sealed and packed in ice and delivered at your door the same day or the next.

## Certified Milk



*Is Safe for Family Use.*  
*Is Safe for Infants and Invalids.*  
*Is Safe for Everybody All the Time.*  
*Costs More, but is worth it.*



# Illinois Medical Journal

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Vol. XXX, No. 4

CHICAGO, OCTOBER, 1916

\$2.00 a Year

## CONTENTS

ORIGINAL ARTICLES		PAGE		PAGE
The Obligation of the State to the Growing Child. <i>Charles J. Whalen, M. D., Chicago</i> .....		225	The Classification of Medical Institutions and Its Effects on Medical Education and the Medical Profession of America. <i>Benj. H. Breakstone, M. D., Chicago</i> .....	243
The Use of Clean, Raw Cow's Milk in the Feeding of In- fants. <i>Grace H. Campbell, M. D., Chicago</i> .....		229	An Epidemic of Typhoid Fever, Due to the Use of a Pol- luted Water Supply at the 1915 Assembly of Old Salem Chautauqua. <i>Harry F. Ferguson, Urbana, Ill.</i> .....	247
Convalescent Hospitals—Their Economic Value. <i>John A. Robtson, M. D., Chicago</i> .....		233	The Importance of Bacillus Carriers in the Propagation of Diphtheria. <i>Gustav F. Ruediger, M. D., La Salle, Ill.</i> .....	255
Public Health Legislation—Recent and Contemplated. <i>C. St. Clair Drake, M. D., Springfield, Ill.</i> .....		235	Results After Four Years Use of Artificial Pneumothorax.▼ <i>LeRoy S. Peters, M. D., Albuquerque, N. M.</i> .....	258
The Health Department Under Commission Form of Gov- ernment. <i>F. C. Vandervort, M. D., Bloomington, Ill.</i> 240				

(Continued on adv. page 28)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879.

## These Are The Specialists

whose clinical instruction, whose ripe experience in questions of diagnosis and treatment, whose practical helps are given you in the *Medical Clinics of Chicago*—and with the same instructive force as if you were really in Chicago sitting in the amphitheatres of these big hospitals actually attending the clinics themselves. They are the day-in and day-out experiences and problems of the man in general practice. Read the list, then send for a circular giving contents, specimen pages and full information.

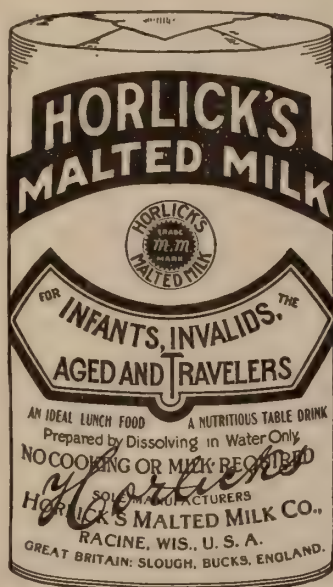
Dr. Isaac A. Abt Sarah Morris Memorial	Dr. Walter W. Hamburger Cook County Hospital	Dr. Frank Smithies Augustana Hospital
Dr. Arthur F. Beifeld Cook County Hospital	Dr. Ralph C. Hamill Cook County Hospital	Dr. Solomon Strouse Michael Reese Hospital
Dr. Truman W. Brophy Northwestern University	Dr. Charles L. Mix Mercy Hospital	Dr. Frederick Tice Cook County Hospital
Dr. James T. Case (Battle Creek Sanitarium) St. Luke's Hospital	Dr. Milton M. Portis Cook County Hospital	Dr. Richard J. Tivnen Mercy Hospital
Dr. Arthur R. Edwards Michael Reese Hospital	Dr. Robert B. Preble St. Luke's Hospital	Dr. George H. Weaver Durand Hospital
Dr. Joseph Friedman Michael Reese Hospital	Dr. William Allen Pusey University of Illinois	Dr. Charles Spencer Williamson Cook County Hospital
Dr. Maurice L. Goodkind Michael Reese Hospital	Dr. Herman L. Kretschmer Presbyterian Hospital	Dr. Joseph Zeisler Northwestern University

Issued serially, one octavo volume of 200 pages, illustrated, every other month.

Per Clinic Year (July to May), six numbers: Cloth, \$12.00 net.

**W. B. SAUNDERS COMPANY, W. Washington Square, Phila.**

This Issue 6,500 Copies



## **THIS IS THE PACKAGE!**

(others are imitations)

*And is your guarantee and protection against the concerns, who led by the success of the Horlick's Malted Milk Company, are manufacturing imitation malted milks which cost the consumer as much as "Horlick's."*

Always specify

# **Horlick's, the Original**

And avoid substitutes

## **We ask only two questions**

before we buy any drug or chemical; the first is—

**"Is It Good Enough"**

And we ask that of our histologist, our analytical chemist, our drug-miller and several other expert judges of drug values on our laboratory staff. If all or any of them say "no," we reject it. If all of them say "yes"—and each of them knows that to measure up to our inflexible standard it must be strictly "A-1"—then, and then only we ask the second question—"What is the price?"

***Quality always comes first***

**Sharp & Dohme**

since 1860

**"Quality Products"**



**Stanolind**  
Trade Mark Reg. U. S. Pat. Off.  
**Liquid Paraffin**  
*(Medium Heavy)*  
**Tasteless—Odorless**  
**—Colorless**

**In Treating**  
**Obesity**

**T**HE reduction of diet in the treatment of obesity cases often leads to constipation. This may be successfully combated by the use of Stanolind Liquid Paraffin.

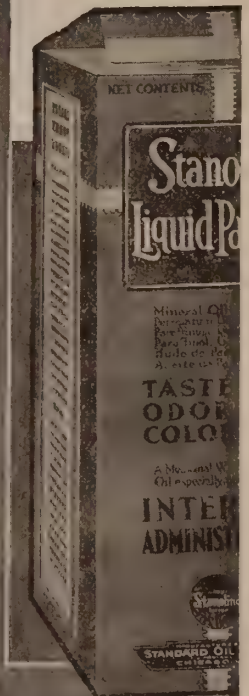
Stanolind Liquid Paraffin in no way hinders the reduction treatment, since it is entirely non-absorbable, and consequently a comparatively small amount serves the purpose. The contrary is true of vegetable oils, which are in large part digested and absorbed, so that considerable quantities must be administered in order to retain sufficient to lubricate the intestines.

Stanolind Liquid Paraffin does not rob the body of fluids as does saline laxatives; it does not disturb the liver and kidneys as do many drug laxatives; it prevents abnormal drying out of the food residues.

A trial quantity with informative booklet will be sent on request.

**Standard Oil Company**  
 (Indiana)

72 West Adams Street  
 Chicago, U. S. A.



## Sugar is an Extremely Important Constituent in Infant Feeding BUT

## YOU MUST SELECT THE RIGHT SUGAR

A large part of the troubles of infant feeding has been shown to be due to the ingestion of milk sugar or cane sugar.

## MEAD'S DEXTRI-MALTOSE

from the standpoint of DIGESTIBILITY and ASSIMILABILITY represents the properly balanced carbohydrate. Composition—Maltose 52%, Dextrin 41.7%, Sodium Chloride 2%.

Administration—1½ oz. Dextri-Maltose (2 heaping tablespoonfuls) to any milk and water mixtures suited to age and weight.

Literature and Samples on Request

**Mead Johnson & Co.**

**Evansville, Ind.**

There are many grades of crude drugs  
offered for sale on the drug market

*But—*

There is only one "best"

It takes the best grade of crude drug, the highest grade of workmanship, together with the most accurate and "time-tried" methods to make



**PITMAN-MOORE COMPANY, Chemists**  
INDIANAPOLIS, INDIANA



## Hoyt's Gum Gluten DIABETIC FOODS

Supplies the much needed variety to be used in place of the forbidden wheat products.

You will find from our analyses that you can regulate your patient's diet to your entire satisfaction by prescribing Hoyt's Gum Gluten.

Send for analyses, Starch Restricted Diet, etc.

**The Pure Gluten Food Company**  
90 West Broadway NEW YORK CITY

# Hay Fever

LOGICALLY TREATED  
WITH  
**SHERMAN'S  
BACTERINS**

Pollen irritation favors the development of pyogenic bacteria in the respiratory tract which then become a primary factor of the disease. Experience shows that the immunizing influence of an appropriate bacterin will either cure the disease or so modify it that it causes but little distress.

WRITE OR LITERATURE

**G. H. SHERMAN, M. D.**  
DETROIT, MICHIGAN



## When You Advise Bran

You want the bran in flake form, because it is doubly efficient.

You want it hidden in a dainty, so folks will enjoy and continue it.

We have made Pettijohn's to meet these requirements—made it under doctors' directions. It is a luscious food, famous for 20 years. And now it hides in the soft wheat flakes 25 per cent of bran.

Can you imagine a bran food that's better? If so, how would you make it?

***Pettijohn's***  
*Rolled Wheat with Bran Flakes*

This is soft, flavory wheat rolled into luscious flakes, hiding 25 per cent of unground bran. Can be cooked in 20 minutes. 15c per package.

**Pettijohn's Flour** is another bran product. It is 75 per cent fine patent flour mixed with bran flakes—25 per cent. To be used like Graham flour in any recipe. 25c per large package.

Chicago

1414

<b>Antituberculous</b> <b>FORMULA:</b>	<b>FIROLYPTOL with KREOSOTE</b> Cotton Seed Oil      Morson's White Label Kreosote <i>Free Samples to the Profession</i> <b>THE TILDEN COMPANY</b> Manufacturing Pharmacists and Chemists Since 1848	<b>Antistrumous</b> Firwein, Eucalyptol
<b>NEW LEBANON, N. Y.</b>		<b>ST. LOUIS, MO.</b>

**THE Pennoyer**  
*Established 1887*  
 Kenosha, Wis., between Chicago and Milwaukee on the North Western R. R. Finest Health Resort and Sanitarium on Lake Michigan. Beautiful environment—a mile of lake shore. For illustrated prospectus address  
**N. A. Pennoyer, M. D.**

THIS SPACE TO LET

**DOCTOR:** It is our purpose to give to you on your orders, the best pharmaceuticals that the highest grade of crude drugs, pure chemicals and skilled workmanship, under experienced supervision, can produce.

When our man calls upon you, give him a few moments of your time. He will tell you more about what we are trying to do.

**G. D. SEARLE & CO.** *Mfrs. of* **Fine Pharmaceuticals and Hypodermic Tablets**  
 215-217-219 W. Ohio St.      CHICAGO      Telephone North 1704

## MELLIN'S FOOD

In every step in the manufacture of Mellin's Food there is constantly in view the ultimate object of making a product of definite composition

**to Accomplish a Definite Purpose.**

This purpose is to furnish certain food elements which, when added to cow's milk, make it a suitable food for an infant. The food elements in Mellin's Food—carbohydrates (maltose and dextrins), proteins and salts—when dissolved in water and added to cow's milk so change the balance of nutrition in cow's milk that the resulting modification presents fat, proteins, carbohydrates and salts in the proportion needed

**for the Development of Infantile Life.**

The success of Mellin's Food, therefore, depends not upon any one of the food elements of which it is made up, but upon the definite composition of "Mellin's Food as a whole" as a means to enable the physician to modify cow's milk to meet the requirements of infant feeding

**in a Scientific, Rational and Efficient Manner.**

**MELLIN'S FOOD COMPANY,**

**BOSTON, MASS.**



PHARMACEUTICALS  
ALKALOIDS  
CHEMICALS  
SERUMS VACCINES  
PRICE LIST  
ON REQUEST

*Made in  
America*

*Abbott*  
MADE IN U.S.A.

THE ABBOTT LABORATORIES  
CHICAGO = NEW YORK  
SEATTLE • SAN FRANCISCO • TORONTO  
LOS ANGELES • BOSTON (THE METCALF CO.) • BOMBAY



**Bureau of Chemistry, U. S. Department of Agriculture:**

"The spurious aspirin is a mixture of either calcium phosphate and starch, cream of tartar and citric acid with some alum; or milk sugar, starch and calcium acid phosphate."—  
(From N. Y. Department of Health "Weekly Bulletin", Nov. 6, 1915)

**By Specifying**

**Bayer-Tablets**  
OF  
**Aspirin**  
(5 grs. each)

The trade-mark  
"Aspirin" (Reg.  
U. S. Pat. Office)  
is a guarantee  
that the monoa-  
cetic acid ester of  
salicylic acid in  
these tablets is  
of the reliable  
Bayer manu-  
facture.

**You Avoid Counterfeits**

**Be Sure of Your Aspirin**

"Recent seizures in various cities of the country of numerous quantities of spurious aspirin make it important that the druggist should assure himself in all cases of the reliability of the source of his supply."—**Pacific Drug Review**, Feb., 1916.

FORM OF APPLICATION FOR ADMISSION TO ACTIVE MEMBERSHIP IN  
.....**COUNTY MEDICAL SOCIETY**

Chicago, Ill., .....

I hereby make application for active membership in the.....County  
Medical Society and beg to submit the following qualifications:

[Here state medical schools attended, with diplomas and licenses to practice held.]  
[PROPER DATE OF EACH]

.....  
.....  
.....

[State where hospital experience and post-graduate study and research work; College or school and hos-  
pital appointments, past and present; Membership in medical societies, past and present; Location of prac-  
tice, past and present, with approximate dates showing time spent in each place.]

.....  
.....  
.....  
.....  
.....  
.....  
.....

I agree not to practice any exclusive system of medicine.

Signature .....

Residence .....

**ENDORSEMENT**

[Endorsers must reside in the same district with applicant.]

Date.....

This Certifies That I have known the above signed applicant .....  
..... M.D., for.....years; that I  
believe h.....to be a person of good moral and professional character and entirely worthy  
of confidence. I hereby recommend h.....for active membership in the.....  
COUNTY MEDICAL SOCIETY.

..... M.D.

..... P. O. Address

..... M.D.

..... P. O. Address

Approved by Membership Committee:

.....  
.....  
.....

Amount Paid..... No.....

Membership Fee after July 1 will be at the rate of 50 cents per month until January 1.



# ALEXANDER'S TYPHOID VACCINE

---

**T**HE value of this product in the prevention of Typhoid Fever is recognized by all authorities.

The success attained by its use in the United States Army places it above all other methods for the prevention of Typhoid Fever. Major F. F. Russell reports only one doubtful case among the vaccinated men in the Army from December, 1912, to August, 1913.

ALEXANDER'S TYPHOID VACCINE is prepared and standardized by scientists trained in this particular line of work.

The contract for supplying the Illinois State Board of Health has been awarded to the ALEXANDER Laboratories.

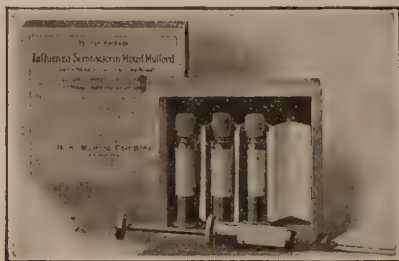
**DR. H. M. ALEXANDER & CO.**  
MARIETTA, PA.

*Trade Supplied by*  
**JOHN WYETH & BROTHER**  
174 West Lake Street  
CHICAGO, ILL.

# "An Ounce of Prevention Is Worth a Pound of Cure"

Immunize your patients against Influenza and "Colds" NOW and do not wait until respiratory affections are prevalent.

Influenza Serobacterin Mixed Mulford will give immunity from attacks of "Colds" and influenza to a large percentage of patients suffering with periodic attacks of disease of the respiratory passages caused by the organisms used in preparing the serobacterin.



Supplied in packages containing four aseptic glass syringes.

Syringes contain killed sensitized bacteria as follows:

	Syringe A	Syringe B	Syringe C	Syringe D
<i>B. influenzae</i> . . . . .	125	250	500	1000 million
<i>Staphylococcus albus</i> . . . . .	125	250	500	1000 million
<i>Staphylococcus aureus</i> . . . . .	125	250	500	1000 million
<i>Streptococcus</i> . . . . .	125	250	500	1000 million
<i>Pneumococcus</i> . . . . .	125	250	500	1000 million
<i>M. catarrhalis</i> (group) . . . . .	125	250	500	1000 million

Literature describing method of treatment and dosage, together with special educational bulletins for distribution to your patients, sent on request.



## H. K. MULFORD COMPANY

Manufacturing and Biological Chemists

HOME OFFICE AND LABORATORIES  
PHILADELPHIA, U. S. A.

21995





## WASSERMANN TEST \$5.00

All Serological Tests \$5.00. Pathological Examination of Tissue, \$5.00. Autogenous Vaccines, \$5.00. Sputum, Smears, Pus, etc., \$1.00. Urinalysis, Complete Chemical and Microscopical, \$1.50. All other work in keeping with the above low prices. Examinations performed by experts in their respective fields.



Main Laboratory

## We Analyze Everything

Write for our fee table with instructions for sending specimens. Containers and culture media on request.

### ACCURACY LABORATORIES

1724-1726 W. Madison Street, CHICAGO, ILL.  
Laboratory Instruction Given to Physicians

## The STORM Binder and Abdominal Supporter

PATENTED



### SACRO-ILIAC BELT

No Whalebones. No Rubber Elastic.  
Washable as Underwear

High and Low Operations, Hernia,  
Relaxed Sacro-iliac Articulations,  
Floating Kidney, Obesity, Preg-  
nancy, Ptosis, Pertussis, etc.

Send for illustrated folder and Testimonials of Physicians.  
Mail Orders filled within Twenty-four Hours.

KATHERINE L. STORM, M. D.  
1541 Diamond St., PHILADELPHIA, PA.

## 50% Better Prevention Defense Indemnity

1. All claims or suits for alleged civil malpractice, error or mistake, for which our contract holder,
  2. Or his estate is sued, whether the act or omission was his own
  3. Or that of any other person (not necessarily an assistant or agent),
  4. All such claims arising in suits involving the collection of professional fees,
  5. All claims arising in autopsies, inquests and in the prescribing and handling of drugs and medicines.
  6. Defense through the court of last resort and until all legal remedies are exhausted.
  7. Without limit as to amount expended.
  8. You have a voice in the selection of local counsel.
  9. If we lose, we pay to amount specified, in addition to the unlimited defense.
  10. The only contract containing all the above features and which is protection per se.
- A Sample Upon Request

The  
MEDICAL PROTECTIVE COMPANY  
of Ft. Wayne, Indiana.

Professional  
Protection, Exclusively

## THE GRADWOHL BIOLOGICAL LABORATORIES, St. Louis, Mo.

announce to the profession that their new laboratories are ready for inspection. They are equipped to perform every accepted standardized laboratory procedure that is helpful to the physician in diagnosis and treatment.

We wish to emphasize the fact that in laboratories of this kind workers should not only be technically well trained to do the work, but that the *INTERPRETATION* of every test should be made a feature of their work. We believe that a *Medical Laboratory* fails in its function if it neglects to scientifically collect the *Medical Findings* gleaned by every-day work and deduce from them the *conclusions* that the *CLINICIAN NEEDS WHEN HE CONSULTS A CLINICAL LABORATORY*.

### SCOPE OF OUR WORK:

**Wassermann Tests** (controlled by  
Hecht-Weinberg-Gradwohl Test.)  
**Pasteur Treatment** (mail course.)

**Blood Chemical** for Nephritis, Gout,  
Diabetes, Rheumatism Diagnosis.  
**Vaccines.**

Moderate Fees, Free Containers, Lucid Literature. - Write us. - Let us assume your laboratory burdens.

## GRADWOHL BIOLOGICAL LABORATORIES

928 N. GRAND AVENUE, ST. LOUIS, MO.

R. B. H. GRADWOHL, M. D., DIRECTOR

ESTABLISHED 1893

## Columbus Medical Laboratory

31 N. STATE ST., CHICAGO

ADOLPH GEHRMAN, Pres.

Send your *pathologic specimens* to us for diagnosis.  
We can assure you a valuable and prompt service.  
Write for instructions and fee table.

Let us make complete examinations in *post-mortem* studies.

Ask for advice in cases of *suspected poisoning* and toxicological work

Consult us when you have *medico-legal cases*.

COLUMBUS MEDICAL LABORATORY

Columbus Memorial Building

CHICAGO, ILL.





# CHICAGO LABORATORY

CLINICAL ANALYTICAL

Marshall Field Annex Bldg.

Established 1904

25 EAST WASHINGTON STREET

Telephone Randolph 3610

CHICAGO

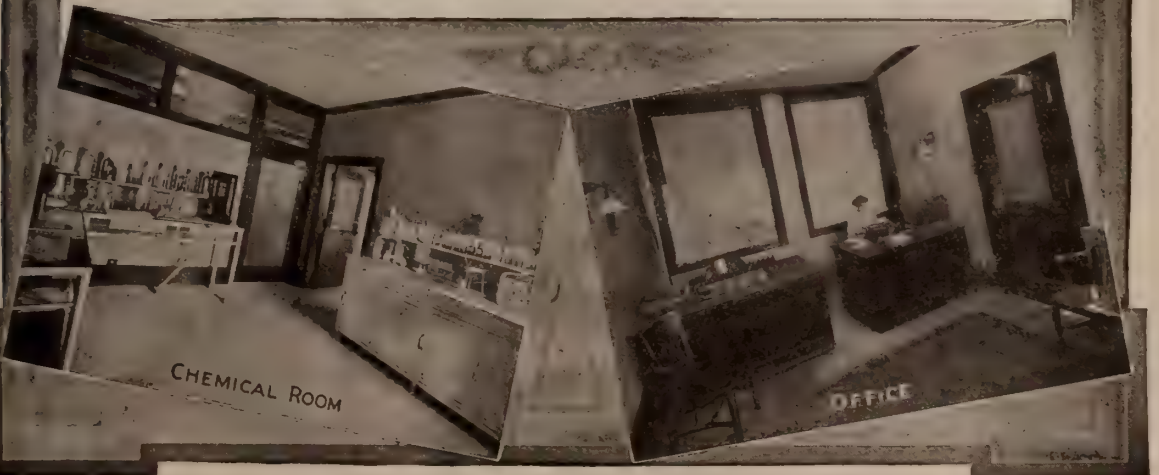
## Complement Fixation

In chronic arthritic cases a Complement Fixation Test for Gonorrhea is often of value in establishing a correct diagnosis.

Send for containers and instructions how to obtain the blood for this test.

*Our names and reputations stand back of our work*

RALPH W. WEBSTER, M.D., Ph.D. Director of Chemical Department  
 THOMAS L. DAGG, M.D., Director of Pathological Department  
 C. CHURCHILL CROY, M.D., Director of Bacteriological Department



# Chicago Pasteur Institute

25th YEAR

812 NORTH DEARBORN STREET

CHICAGO

FOR THE PREVENTIVE TREATMENT OF HYDROPHOBIA

ANTONIO LAGORIO, M.D. LL.D., Medical Director

G. B. BRUNO, M.D., Associate Director

FRANK A. LAGORIO, M.D., Associate Director

**Announcement**—Since October, 1910, this institute has taken an advanced progressive step in abandoning the old methods now in vogue, discarding the cords treatment, and in adopting instead the use of the brain substance properly treated and attenuated and rendered safe by having its virulence destroyed. Telephone Superior 973.

*N. B.—We have no branches and the use of our name is unauthorized.*

WASSERMANN

CHEMICAL

HISTO-PATHOLOGICAL

Prices EQUAL TO THE REST

## LABORATORY OF HYGIENE, PATHOLOGY AND BACTERIOLOGY

DR. MAXIMILIAN HERZOG

DR. MEYER D. MOLEDEZKY

1604 MALLERS BUILDING

5 SOUTH WABASH AVE., CHICAGO

PHONES RANDOLPH 5794-5795

Work EQUAL TO THE BEST and BETTER THAN THE REST

VACCINES

MICROSCOPICAL

BACTERIOLOGICAL

# Swan's Rheumatic Bacterin

**M**ADE from a number of strains of Streptococcus obtained by blood cultures from cases of acute and chronic Arthritis.

The most specific treatment for arthritic conditions known to modern medicine.

In 20 c. c. (Mil.)

Rubber

Stoppered Vials

**\$3.00**

Literature and complete directions with each stock package.

**SWAN-MYERS COMPANY**

*Pharmaceutical and Biological Laboratories*

INDIANAPOLIS, IND., U. S. A.



# ILLINOIS STATE MEDICAL SOCIETY

## SECTION OFFICERS AND COMMITTEES

SECTION ONE	
Frederick Tice, Chairman.....	Chicago
C. Martin Wood, Secretary.....	Decatur
SECTION TWO	
James H. Finch, Chairman.....	Champaign
John S. Nagel, Secretary.....	Springfield
SECRETARY'S CONFERENCE	
H. B. Henkel, Chairman.....	Springfield

Osstella Blakely, Secretary.....	Fairfield
SECTION ON PUBLIC HEALTH AND HYGIENE	
G. F. Ruediger, Chairman.....	La Salle
Grace H. Campbell.....	Chicago
SECTION ON EYE, EAR, NOSE AND THROAT	
R. J. Tivnen, Chairman.....	Chicago
J. Sheldon Clark, Secretary.....	Freeport

## COUNTY SOCIETIES

This list is corrected in accordance with the best information obtainable at the date of going to press. County Secretaries are requested to notify The Journal of any changes or errors.

Adams County	
Dan G. Stine, Pres.....	Quincy
Elizabeth B. Ball, Secy.....	Quincy
Alexander County	
W. F. Grinstead, Pres.....	Cairo
H. A. Davis, Secy.-Treas.....	Cairo
Bond County	
W. T. Easley, Pres.....	Greenville
J. C. Wilson, Secy.....	Greenville
Boone County	
Geo. Markley, Pres.....	Poplar Grove
H. E. Delavergne, Secy.....	Belvidere
Brown County	
D. R. Peters, Pres.....	Timewell
E. C. Allworth, Secy.-Treas.....	Mt. Sterling
Bureau County	
M. C. Barrett, Pres.....	Princeton
M. A. Nix, Secy.....	Princeton
Calhoun County	
W. A. Skeel, Pres.....	Kampsville
J. H. Peisker, Secy.....	Hardin
Carroll County	
W. W. McGrath, Pres.....	Savanna
R. B. Rice, Secy.-Treas.....	Mt. Carroll
Cass County	
C. E. Soule, Pres.....	Beardstown
W. R. Blackburn, Secy.....	Virginia
Champaign County	
J. H. Finch, Pres.....	Champaign
Wm. V. Secker, Secy.....	Champaign
Christian County	
R. G. Danford, Pres.....	Pana
S. B. Herdman, Secy.....	Taylorville
Clark County	
S. W. Weir, Pres.....	West Union
S. C. Bradley, Secy.....	Marshall
Clay County	
C. E. Duncan, Pres.....	Flora
R. D. Finch, Secy.....	Flora
Clinton County	
J. A. Bauer, Pres.....	Germantown
J. Q. Roane, Secy.....	Carlyle
Coles County	
Edmund Summers, Pres.....	Mattoon
R. H. Craig, Secy.....	Charleston
Cook County	
Chas. J. Whalen, Pres.....	Chicago
C. E. Humiston, Secy.....	Chicago
Crawford County	
A. G. Brooks, Pres.....	Stoy
C. E. Price, Secy.....	Robinson
Cumberland County	
N. J. Hauton, Pres.....	Greenup
DeKalb County	
L. E. Barton, Pres.....	Malta
J. B. Hagey, Secy.....	DePalb
De Witt County	
J. C. Myers, Pres.....	Clinton
Charles W. Carter, Secy.....	Clinton
Douglas County	
I. N. C. McKinney, Pres.....	Murdock
Walter C. Blaine, Secy.....	Tuscola
Du Page County	
(Affiliated with Cook County)	
Edgar County	
Wm. A. Buchanan, Pres.....	Paris
George H. Hunt, Secy.....	Paris
Edwards County	
C. S. Brannen, Pres.....	Albion
W. E. Buxton, Secy.....	West Salem
Effingham County	
Geo. Haumesser, Pres.....	Effingham
F. N. A. Hoffman, Secy.....	Effingham

Fayette County	
A. E. Greer, Pres.....	Brownstown
A. R. Whitefort, Secy.....	St. Elmo
Franklin County	
Wm. H. Smith, Pres.....	Benton
Edgar Austin, Secy.....	Benton
Fulton County	
C. N. Allison, Pres.....	Canton
D. S. Ray, Secy.-Treas.....	Cuba
Gallatin County	
J. W. Bowling, Pres.....	Shawneetown
A. B. Capel, Secy.....	Shawneetown
Greene County	
C. R. Thomas, Pres.....	Roodhouse
H. A. Chapin, Secy.....	White Hall
Grundy County	
Roscoe Whitman, Pres.....	Morris
F. C. Bowker, Secy.....	Morris
Hamilton County	
P. M. Nation, Pres.....	McLeansboro
I. M. Asbury, Secy.....	McLeansboro
Hancock County	
Blair Kelley, Pres.....	Ferris
S. M. Parr, Secy.....	Carthage
Hardin County	
W. J. J. Paris, Pres.....	Rosiclare
F. A. Jones, Secy.....	Rosiclare
Henderson County	
W. J. Emerson, Pres.....	Carman
I. F. Harter, Secy.....	Stronghurst
Henry County	
Chas. F. Young, Pres.....	Geneseo
P. J. McDermott, Secy.....	Kewanee
Iroquois-Ford District	
Martha Anderson, Pres.....	Roberts
D. W. Miller, Secy.....	Gilman
Jackson County	
Harriet N. Daniel, Pres.....	Murphysboro
C. M. Thompson, Secy.....	Makanda
Jasper County	
W. E. Franke, Pres.....	Newton
James P. Prestley, Secy.-Treas.....	Newton
Jefferson County	
Todd P. Ward, Pres.....	Mt. Vernon
Andy Hall, Secy.....	Mt. Vernon
Jersey County	
A. A. Barnett, Pres.....	Jerseyville
H. R. Bohannon, Secy.....	Jerseyville
Jo Daviess County	
A. T. Nadig, Pres.....	Elizabeth
T. J. Stafford, Secy.....	Stockton
Johnson County	
C. D. Nobles, Pres.....	Buncome
H. W. Walker, Secy.....	Grantsburg
Kane County	
W. H. Schwingel, Pres.....	Aurora
Robt. S. Denney, Secy.-Treas.....	Aurora
Kankakee County	
Joseph A. Guertin, Pres.....	Kankakee
C. F. Smith, Secy.....	Kankakee
Kendall County	
R. A. Schaefer, Pres.....	Plano
Robt. McClelland, Secy.....	Yorkville
Knox County	
A. C. Keener, Pres.....	Altona
G. S. Bower, Secy.....	Galesburg
Lake County	
John P. O'Neil, Pres.....	Highland Park
C. S. Ambrose, Secy.-Treas.....	Waukegan
La Salle County	
R. C. Fullenweider, Pres.....	La Salle
E. E. Perisho, Secy.....	Streator

(Continued on page 17)



1866  
1916

## A Word of Appreciation

---

OUR house will celebrate its fiftieth birthday on the Twenty-sixth of October. This is therefore the year of our Golden Jubilee.

At such a time it is fitting that we should recognize in a public manner one of the fundamental causes of our success. This is found in the confidence bestowed upon us for fifty years by those whom we have sought to serve. Without their support we could have done nothing. Lacking their co-operation we should long since have ceased to exist.

Our appreciation of this truth is profound and heartfelt. We acknowledge our indebtedness with gratitude, and during the second half century of our existence we shall strive in every way to be worthy of the trust reposed in us by the medical and pharmaceutical professions of the world.

PARKE, DAVIS & CO.

*October 1, 1916.*



# • IODÉOL • INJECTABLE IODINE

The ONLY  
ELECTRO-COLLOIDAL  
IODINE



## A promising factor in the treatment of Pulmonary, Osseous and Glandular Tuberculosis

When ordering, specify exact form needed :

IODÉOL: 1 cc. ampoules (20% susp.) for intramuscular injection; 4-grain capsules (25% susp.—internal); 15½-gm. and 45-gm. vials (50% susp.—external); ovules 25% susp.—gynecological.)

IODAGOL: 2cc. ampoules (25% susp.) and vials of 20-gm. and 45-gm. (25% susp.) for urethral injection.

IODAGOL DRESSING: Vials of 20-gm. and 45gm (25% susp.) for wounds and open surfaces.

Promising because (1) in colloidal iodine (IODÉOL) the penetrative and disinfectant properties of iodine are greatly intensified, owing to its rapid diffusibility. (2) IODÉOL destroys the tubercle bacillus "in vitro" after dissolving its waxy envelope, and (3) clinically the results have been most encouraging, as reported before the International Congress on Tuberculosis, at Rome, in 1912. If a systemic disinfectant of great potency is of any value in tuberculosis, then IODÉOL may well be that one. Give it a trial. We shall be very glad to send you the literature on request.

Send your address on a postcard and it will be placed on the complimentary mailing list of the new medical quarterly, ELECTRO-COLLOIDAL IODINE THERAPY, keeping you informed of the most approved modern practice in this important field.



### COUNTY SOCIETIES—Continued

Lawrence County  
E. M. Cooley, Pres.....Lawrenceville  
Thos. Kirkwood, Secy.....Lawrenceville

Lee County  
Chas. C. Kost, Pres.....Dixon  
Edmund B. Owens, Secy.....Dixon

Livingston County  
A. B. Richardson, Pres.....Emington  
John Ross, Secy.....Pontiac

Logan County  
W. W. Coleman, Pres.....Lincoln  
H. S. Oyler, Secy.....Lincoln

McDonough County  
E. R. Miner, Pres.....Macomb  
Geo. S. Duntley, Secy.....Bushnell

McHenry County  
C. W. Goddard, Pres.....Harvard  
N. L. Seelye, Secy.....Harvard

McLean County  
Edwin P. Sloan, Pres.....Bloomington  
Thos. D. Cantrell, Secy.....Bloomington

Macon County  
M. P. Parish, Pres.....Decatur  
F. E. Smith, Secy.....Decatur

Macoupin County  
M. McMahan, Pres.....Palmyra  
T. D. Doan, Secy.....Scottville

Madison County  
R. D. Luster, Pres.....Granite City  
E. W. Fiegenbaum, Secy.....Edwardsville

Marion County  
G. M. Gimbill, Pres.....Centralia  
S. A. Smith, Secy.....Odin

Marshall-Putnam County  
R. R. Eddington, Pres.....Lacon  
E. S. Gillespie, Secy.....Wenona

Mason County  
H. O. Rogier, Pres.....Mason City  
W. R. Grant, Secy.....Easton

Massac County  
J. A. Orr, Pres.....Metropolis  
J. A. Helm, Secy.....Metropolis

Menard County  
W. A. Mudd, Pres.....Athens  
L. E. Orr, Secy.....Tallula

Mercer County  
F. J. Rathbun, Pres.....New Windsor  
A. N. Mackey, Secy.....Aledo

Monroe County  
S. Kohlenbach, Pres.....Columbia  
L. Adelsberger, Secy.....Waterloo

Montgomery County  
Z. V. Kimball, Pres.....Hillsboro  
H. F. Bennett, Secy.....Litchfield

Morgan County  
T. O. Hardesty, Pres.....Jacksonville  
T. G. McLin, Secy.....Jacksonville

Moultrie County  
C. W. Taylor, Pres.....Bethany  
O. M. Williamson, Secy.....Sullivan

Ogle County  
L. M. Griffin, Pres.....Polo  
J. T. Kretsinger, Secy.....Leaf River

Peoria City Medical Society  
C. D. Thomas, Pres.....Peoria  
E. W. Oliver, Secy.....Peoria

Perry County  
J. S. Templeton, Pres.....Pickneyville  
J. D. Byrne, Secy.....Du Quoin

Platt County  
W. G. McPharson, Pres.....Bement  
B. L. Barker, Secy.....Monticello

Pike County  
R. P. Wells, Pres.....Pleasant Hill  
W. E. Shastid, Secy.....Pittsfield

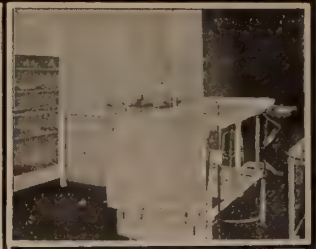
(Continued on page 29)



## THE OTTAWA TUBERCULOSIS COLONY

OTTAWA, ILL.

is devoid of the "institutional atmosphere."  
It is designed and conducted to meet the  
requirements of patients who demand



### Privacy and Individual Attention

*Special consideration is given  
to Quality of Service*

Rates \$22.00 to \$35.00 per week

H. V. PETTIT, Supt.

OTTAWA

ILLINOIS



## Chicago Fresh Air Hospital

(FOR TUBERCULOSIS)

*At Rogers Park, Chicago, Illinois*

Patients received in *all* stages of Pulmonary Consumption.

Private Rooms and Board, \$25.00 per week.

Open Porch and two-bed Rooms, with Board, \$14.00.

Tuberculin Treatment  
Artificial Pneumo-Thorax

**DR. ETHAN A. GRAY,**

*Medical Superintendent.*

## THE POTTENGER SANATORIUM

MONROVIA, CALIFORNIA

FOR DISEASES OF THE LUNGS AND THROAT



A thoroughly equipped institution for the scientific treatment of tuberculosis. High class accommodations. Ideal all-year-round climate. Surrounded by orange groves and beautiful mountain scenery, 45 minutes from Los Angeles.

F. M. POTTENGER, A.M., M.D. LL.D.,  
Medical Director.

J. E. POTTENGER, A.B., M.D., Assistant  
Medical Director and Chief of Laboratory.

GEORGE H. EVANS, M.D. San Francisco,  
Medical Consultant.

For Particulars, Address THE POTTENGER SANATORIUM, Monrovia, California  
LOS ANGELES OFFICE, 1100-1101 TITLE INSURANCE BUILDING, FIFTH AND SPRING STREETS



# EDWARD SANATORIUM

**For the Treatment of Incipient Pulmonary Tuberculosis  
NAPERVILLE, ILLINOIS**



Established 1907. Attractive surroundings. Large grounds. Open-air sleeping cottages and Infirmary with all appointments necessary for the comfort of the patients.

Modern hygienic-dietetic method of treatment. Medical and laboratory facilities. Resident physicians and trained nurses.

**Tuberculin Treatment and Artificial Pneumothorax in suitable cases**

*For detailed information, rates and rules of admission, apply to*

**CHICAGO TUBERCULOSIS INSTITUTE, 8 South Dearborn Street, Room 1212, CHICAGO, ILL.**



On Main Line Chicago, Milwaukee & St. Paul Railway  
30 Miles West of Milwaukee

# Oconomowoc Health Resort

OCONOMOWOC, WISCONSIN

**For Nervous and Mild Mental Diseases**

Building New, Most Approved Fireproof Construction

**ARTHUR W. ROGERS, M.D., Resident Physician in Charge**

LONG DISTANCE TELEPHONE

Built and equipped to supply the demand of the neurasthenic, borderline and undisturbed mental case for a high class home free from contact with the palpable insane, and devoid of the institutional atmosphere. Forty-one acres of natural park in the heart of the famous Wisconsin Lake Resort Region. Rural environment, yet readily accessible. The new building has been designed to encompass every requirement of modern sanitarium construction, the comfort and welfare of the patient having been provided for in every respect. The bath department is unusually complete and up-to-date. Number of patients limited, assuring the personal attention of the resident physician in charge.

Trains end at Oconomowoc on request.

# The Norbury Sanatorium

JACKSONVILLE -- ILLINOIS

*Established by Dr. Frank P. Norbury, 1901*

**Incorporated and Licensed**

**"Maplewood" — "Maplecrest"**

**Capacity Forty Beds**

**P**PRIVATE RESIDENTIAL HOMES for the treatment of Nervous and Mental Disorders. Especial attention given to the treatment, by approved modern methods, of the Psychoneuroses, Exhaustion states and selected Psychoses and addiction cases.

**Dr. FRANK P. NORBURY,**  
Medical Director. (Late  
Allenist, State Board of Ad-  
ministration. Formerly  
Supt. Kankakee State Hos-  
pital.)

**DR. ALBERT H. DOLLEAR**  
Superintendent (Late  
Clinical Asst., State Psycho-  
pathic Institute, Kankakee,  
Formerly Asst. Supt., Water-  
town State Hospital.)

Address all communications, **THE NORBURY SANATORIUM, 806 South Daimond Street, JACKSONVILLE, ILLINOIS**  
Springfield Office, DR. FRANK P. NORBURY, 407 South Seventh Street, by appointment

# Kenilworth Sanitarium

(Established 1905)

**KENILWORTH, ILLINOIS**

(C. & N.-W. Railway. Six miles north of Chicago)



All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois

Built and equipped for the treatment of nervous and mental diseases. Approved diagnostic and therapeutic methods. An adequate night nursing service maintained. Sound proof rooms with forced ventilation. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.

## Resident Medical Staff

Margaret S. Grant, M. D., Sherman Brown, M. D.,  
Sanger Brown, M. D.,  
Chicago Office: 59 E. Madison Street,  
Telephone: Randolph 5794 Hours: 11 to 1, by appointment only



Established 1867

# BELLEVUE SANITARIUM

BATAVIA, ILLINOIS  
near CHICAGO

*For Nervous and Mental Diseases  
of Women Only*

Restful, homelike and accessible. Treatment modern,  
scientific and ethical.

TERMS MODERATE.

WRITE FOR BOOKLET



# The Hygeia Hospital

Formerly  
The Hygeia Sanitarium

Is the only institution in the Middle West

**exclusively treating Drug and Alcohol Addiction**  
by the method given to the medical profession through the Journal A. M. A., June, 1913.

Patients freed from their habit and craving without suffering or publicity. By means of clinical and laboratory examinations, the treatment is adapted to the condition of the individual.

A fixed charge is made, covering all ordinary expenses.

Reprints and other information sent on request.

Wm. K. McLaughlin, M. D.  
Med. Supt.

2715 Michigan Boulevard  
CHICAGO, ILL.



BUILDING ABSOLUTELY FIRE-PROOF

# Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF

**NERVOUS DISEASES**

BYRON M. CAPLES, M.D., Superintendent

Waukesha

::

Wisconsin



# NEURONHURST

Dr. W. B. Fletcher's Sanatorium



**For Treatment of Mental and Nervous Diseases, Including Legally Committed and Voluntary Cases**

Well equipped with all facilities for the care and treatment of all forms of mental and nervous diseases, inebriety, drug addiction and those requiring recuperation and rest. Gynecological department is in charge of skilled women physicians. All approved forms of Hydrotherapy, Balneotherapy, Massage, Swedish Movements, etc. All forms of Electrical Treatments, Phototherapy, High Frequency and X-Ray work. A strictly ethical institution. Correspondence with physicians invited. For particulars and terms, address:

**DR. MARY A. SPINK, Superintendent.** Long Distance Telephones 1140 E. Market St., INDIANAPOLIS

## DR. SIDNEY D. WILGUS

Retiring Superintendent of Kankakee State Hospital, also former Superintendent of Elgin State Hospital.

### Begs to Announce

**that he has purchased a Sanitarium at Rockford, Ill. (The Ransom)**

and is prepared to give personal care and attention to mental and nervous cases and drug addictions. Modern features having been added, the equipment is qualified to give up-to-date treatment. Also tennis, croquet, boating, and other out-door exercises are prescribed. A nine-hole golf course is near by. Correspondence solicited, or, to save time, telephone: Long Distance, Rockford 3767, and reverse the charges. On request patients are met at any train with an automobile.

**Mail address, DR. SIDNEY D. WILGUS, Box 304, Rockford, Ill.**

Chicago Office. Thursday Mornings until 12 at Suite 1603, 25 E. Washington St.

And by appointment



ENTRANCE

WEST HOUSE

OFFICE AND BATH HOUSE

PSYCHOPATHIC HOSPITAL

GYMNASIUM

Established  
in 1884

## THE MILWAUKEE SANITARIUM

For Mental and Nervous Diseases

Wauwatosa,  
Wis.

Located at Wauwatosa (a suburb of Milwaukee) on C. M. & St. P. Ry., 2½ hours from Chicago, 15 minutes from Milwaukee, 5 minutes from all cars. Two lines street cars. Complete facilities and equipment as heretofore announced. ¶ Psychopathic Hospital: Continuous baths, fireproof building, separate grounds. ¶ West House: Rooms en suite with private baths. ¶ Gymnasium and Recreation Building: Physical culture, "Zander" machines, shower baths. ¶ Modern Bath House: Hydrotherapy, Electrotherapy, Mechanotherapy. ¶ 30 acres beautiful hill, forest and lawn. Five houses. Individual treatment. Descriptive booklet will be sent upon application.

**RICHARD DEWEY, A. M., M. D.**

**EUGENE CHANEY, A. M., M. D.**

**WILLIAM T. KRADWELL, M. D.**

CHICAGO OFFICE: Marshall Field Company Annex, 25 E. Washington Street, Room 1823. Wednesdays 1 to 3 P. M. (except in July and August).  
MILWAUKEE OFFICE: 504 Goldsmith Building. Consultation by appointment.  
TELEPHONES: Chicago—Central 1162. Milwaukee—Wauwatosa 16.



## The Cincinnati Sanitarium For Mental and Nervous Diseases

Incorporated 1873

A strictly modern hospital fully equipped for the scientific treatment of nervous and mental affections. Situation retired and accessible. For details write for descriptive pamphlet.

F. W. Langdon, M.D., Medical Director

B. A. Williams, M. D., Resident Physician

Emerson A. North, M. D., Resident Physician

H. P. COLLINS, Business Manager, Box No. 4, College Hill, Cincinnati, Ohio



ABSOLUTELY FIREPROOF BUILDING

LESS THAN THREE HOURS FROM CHICAGO

## Mud Baths

For the treatment of RHEUMATISM, Nervousness, Kidney, Liver and Skin Diseases, and all ailments requiring elimination and relaxation. Location beautiful; climate healthful; 80 acres of private grounds.

DR. AUGUSTUS S. GILLES, Medical Director

*Correspondence with physicians solicited*

For rates, literature and reservations, address

**Waukesha Moor (Mud) Bath Co.**

WAUKESHA, WISCONSIN

## Burr Oak Sanatorium For the Treatment of Tuberculosis WHEATON, ILL.

A small home-like Sanatorium devoid of the institutional atmosphere. Beautiful grounds and surroundings; conscientious, individual attention. Fresh milk and eggs from the farm. Excellent table. Rates \$9.00 per week.

D. C. MOULDING, M.D., Physician-in-Charge

Chicago Office, Room 340, 440 So. Dearborn St.

Hours: 12 to 2 P. M., Mondays and Wednesdays

## The Peoria Mud Baths

We insist that your patients can eliminate as freely and as effectually in Illinois as in any other State in the Union.

Strict ethical relations. Thoroughly equipped. Have had thousands of patients.

DR. T. W. GILLESPIE, Medical Supt.

**SULPHUR SPRINGS SANITARIUM**  
215-217 N. Adams St. Peoria, Illinois





## DR. WEIRICK'S SANITARIUM

FORMERLY DR. BROUGHTON'S SANITARIUM  
ESTABLISHED IN 1901

**For Opium, Morphine  
Cocaine and Other Drug  
Addictions, Including  
Alcohol and Special  
Nervous Cases**

Methods easy, regular, humane.  
Good heat, light, water, help, board,  
etc. Number limited to 44. A well  
kept home. Nervous-Mental De-  
partment in charge of Dr. W. L.  
Ransom. Address

**DR. G. A. WEIRICK**  
SUPERINTENDENT

**2007 South Main Street**

Phone 536  
**Rockford - - - Illinois**

**PETTEY & WALLACE**  
958 S. Fifth Street  
MEMPHIS, TENN. **SANITARIUM**



FOR THE TREATMENT  
OF

**Drug Addiction, Alcoholism,  
Mental and Nervous Diseases**

A quiet, home-like, private, high-  
class institution. Licensed. Strictly  
ethical. Complete equipment. Best  
accommodations.

Resident physician and trained  
nurses.

Drug patients treated by Dr.  
Petty's original method.

Detached building for mental  
patients.

# The Peoria Sanatorium

A private Sanatorium for the treatment of Nervous and Mental Diseases,  
by modern methods. Flowing Sulphur Spring. Licensed by the State.

**DRUG AND LIQUOR HABITS TREATED**

WRITE FOR BOOKLET

**Director, DR. GEO. W. MICHELL**

**PHONE MAIN 225.**

**Address, 106 N. Glen Oak, PEORIA, ILL.**

**C**, How can you help to make the JOURNAL the best paying as well as the best reading Journal? *By buying from our Advertisers.* If you saw the "ad" in the JOURNAL, the advertiser is reliable.

## AREND-ADAMICK DOUBLE KUMYSS

**AN IDEAL FOOD** for all conditions of enfeebled digestive power from any cause, malnutrition in infants or the aged—a sustaining diet during the course of acute infectious diseases and gastro-intestinal disorders  
**EASILY ASSIMILATED** and contains the elements essential for the nourishment of the organism.  
**A VALUABLE NUTRIENT** in Typhoid, Enteritis, Marasmus, Acute fevers, Gastric Ulcer, Anemia, Vomiting of Pregnancy, Asthenic fevers and during Convalescence.

Its taste is pleasantly acidulous—its enticing flavor is unusually acceptable to the capricious appetite of the sick—it may be used for days as an exclusive diet.

Booklet giving instructions and interesting clinical report, also price list, free on request.

**A. AREND DRUG COMPANY**

Manufacturing Chemists

182 West Madison Street, Chicago

## PHYSICIANS APPROVE of My Work for Women

I wish every physician to know what my personal work for women really is, and does, because physicians who fully understand it frankly welcome my help—they send me hundreds of patients.

Every physician has cases in which an individual, scientific personally directed course in proper exercise, breathing, bathing and diet would greatly assist to build up.

My exercises will materially help your cases of Chronic Constipation, Torpid Liver, Indigestion, Anaemia, Neurasthenia, Weakened Heart Muscles, Undeveloped Lungs, Poor Circulation, Uterine Displacement, increase the oxygen-carrying power of the blood, by building up and strengthening the physical and nervous system.

I teach women how to walk, how to stand correctly, how to breathe, how to exercise normally, so that no organ is displaced by over or improper exercise or imperfect poise.

The mental interest and incentive developed by the individual lessons dispel that languor and indifference which physicians often find hard to cope with.

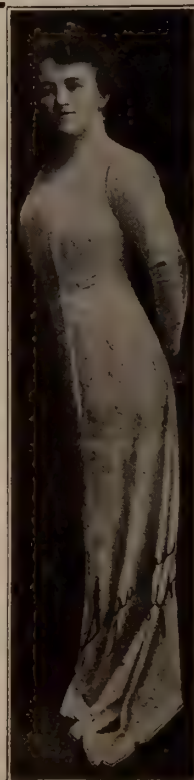
I study each pupil's special requirements, and prescribe for her individually, just as you prescribe for your patients. I give no promiscuous exercise, but direct each woman according to her needs and her strength. I have spent years in the study of anatomy and physiology, and accept no cases where pronounced pathological conditions are present, as I know the possibilities of my work and know its limitations.

In many cases I insist that the pupil have the consent and advice of her physician; in others, I require a regular weekly examination by physicians.

For 12 years I gave personal instructions to women before attempting instructions by mail. Upon request, I will send you, with information concerning my work, any one of the following lectures: A Good Figure; Circulation; Body Manikin and Position of the Vital Organs; Ideals and Privileges of Woman; Character as Expressed in the Body; Mind Over Matter—The Nervous System—Effect of Habit Upon Life—Foods; Self-Sufficiency—Mental Poise; Motherhood; Vital Organs—Their Uses and Abuse.

**SUSANNA COCROFT, Dept. 33, 624 Michigan Ave., CHICAGO**

MRS COCROFT HAS PERHAPS HAD A WIDER EXPERIENCE THAN ANY WOMAN IN AMERICA IN  
PRESCRIBING REMEDIAL EXERCISES FOR WOMAN





# Chicago College of Medicine and Surgery

**MEDICAL  
DEPARTMENT OF  
VALPARAISO  
UNIVERSITY**



**702-706  
SO. LINCOLN ST.  
CHICAGO, ILL.**

**Main College Building and Willard Hospital**

This College has an enrollment of 500 students. The Laboratory and Hospital facilities are abundant.

The Faculty consists of men who have distinguished themselves as medical educators.

The College is not burdened with debts and is therefore able to expend all of its income upon the courses of instruction.

The Calendar year is divided into three semesters of four months each. The Fall semester begins on the last Tuesday in September. The Winter semester begins on the first Monday in February. The Summer semester begins on the first Monday in May.

*For catalogue or further information address*

**J. NEWTON ROE, Secretary**

**706 S. Lincoln St., Chicago, Ill.**

## Chicago Eye, Ear, Nose and Throat College

**A Post-Graduate School for Prac-  
titioners of Medicine**

**235 W. Washington Street  
Chicago, Ill.**

**Catalogue on Application**

## THE COLLEGE OF MEDICINE of the UNIVERSITY OF ILLINOIS



Minimum admission requirements to the Freshman year, fifteen units of work from an accredited high school and in addition two years in a recognised university or college involving at least one year in college physics, biology, chemistry and six college hours in French or German.

For course of Medical study, four years are required. Eligible students will receive the degree of B. S. at the completion of the Sophomore year. Well equipped laboratories and good hospital facilities.

Excellent location in the heart of Chicago's great medical center.  
Collegiate year begins September 28th, 1916. For full information concerning course of study, fees, etc., address Secretary, Box 51 COLLEGE OF MEDICINE of the UNIVERSITY OF ILLINOIS Congress and Honore Streets Chicago, Illinois

## Chicago Maternity Hospital and Training School for Nurses

**ACCOMMODATES 25 PATIENTS  
RATES: \$10.00 to \$25.00 PER WEEK**

Well infants cared for in nursery for \$5.00 per week.  
Training School for Obstetrical and Infants' nurses.

Address

**EFFA V. DAVIS, M.D., 2314 N. Clark St., Chicago**

## "BEVERLY FARM"

**— HOME AND SCHOOL —**

**For Nervous and Backward Children**

Separate buildings for boys, girls and children under 10 years of age. Thirty-three years experience in this work. A brick school house and gymnasium. One hundred and seventy-five acres of land, forty of which has fine timber with log cabin.

Consultation at home if desired. Publicity avoided.  
Address all communications to

**W. H. C. SMITH, M. D., Superintendent  
Godfrey, Madison Co., Ill.**

"Beverly Farm" was awarded a grand prize by the committee of awards of the Louisiana Purchase Exposition.



## *The Key to a Smooth-Running Motor Is Polarine*

Polarine minimizes friction—friction minimized means repairs minimized and increased power as well, and—

# Polarine

FRICION REDUCING MOTOR OIL

flows as freely at zero as at 100 degrees. It maintains the correct lubricating body at any motor speed or temperature. Yet Polarine costs no more than inferior lubricating oil. Order a half barrel today and cut down your up-keep.

**Standard Oil Company (Indiana) Chicago, U. S. A.**

*Use Red Crown Gasoline and get more power, more speed, more miles per gallon*

22b





# BUYER'S INDEX

Abbott Laboratories.....	7
Accuracy Laboratories.....	11
Alexander, Dr. H. M., Co.....	9
A. Arend Drug Co.....	24
Bayer Company.....	7
Bellevue Sanitarium.....	20
Bevely Farm School.....	25
Burr Oak Sanatorium.....	22
Chicago College of Medicine and Surgery.....	25
Chicago Eye, Nose & Throat College.....	25
Chicago Fresh Air Hospital.....	18
Chicago Laboratory.....	13
Chicago Laboratory of Surgical Technique.....	12
Chicago Maternity Hospital.....	25
Chicago Med. Soc. Milk Com.....	32
Chicago Pasteur Institute.....	14
Cincinnati Sanitarium.....	22
College of Medicine, Univ. of Ill.....	25
Cocroft, Susanna.....	24
Columbus Medical Laboratory.....	12
Crittenton, Chas. N. Co.....	30
Edward Sanatorium.....	19
Fletcher's Sanatorium.....	21
Gradwohl Biological Laboratories.....	12
Harvey, G. F.....	17
Horlick's Malted Milk Co.....	2
Hygeia Hospital.....	20
Kenilworth Sanitarium.....	20
Laboratory of Hygiene, Pathology & Bacteriology.....	14
Lederle Antitoxin Laboratory.....	31
Medical Protective Co.....	11
Mead, Johnson & Co.....	4

Mellin's Food Co.....	6
Milwaukee Sanitarium.....	21
Mueller & Co., V.....	10
Mulford, H. K., & Co.....	10
Norbury Sanitarium.....	19
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Parke, Davis & Co.....	16
Pennoyer Sanitarium.....	6
Peoria Mud Baths.....	22
Peoria Sanatorium.....	23
Petty & Wallace's Sanitarium.....	23
Phillips Co., Chas. H.....	28
Pitman-Moore Co.....	4
Pottenger Sanatorium.....	18
Pure Gluten Food Co.....	5
Quaker Oats Co.....	5, 29
Ransom Sanitarium.....	21
Saunders Co., W. B.....	front cover
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Sherman, G. H., M. D.....	5
Standard Oil Co.....	3, 26
Storm, Katherine L., M. D.....	11
Sulphur Springs Sanitarium.....	23
Swan-Myers Co.....	14
Tilden Co., The.....	6
Waukesha Moor (Mud) Bath Co.....	22
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium.....	28

# INDEX TO ADVERTISERS

## ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D.....	11
--------------------------------	----

## AUTOMOBILES, ETC.

Goodyear Tire & Rubber Co.....	25
Standard Oil Co.....	3, 30

## FOOD

Arend-Adamick Koumyss.....	24
Certified Milk.....	4
Horlick's Malted Milk Co.....	2
Mead, Johnson & Co.....	6
Mellin's Food Co.....	6
Pure Gluten Food Co.....	5, 29
Quaker Oats.....	5, 29

## HOSPITAL

Chicago Fresh Air Hospital.....	18
Chicago Maternity Hospital.....	25
Hygeia Hospital.....	20

## INVESTMENTS AND INSURANCE

Medical Protective Co.....	11
----------------------------	----

## LABORATORY

Abbott Laboratories.....	7
Accuracy Laboratories.....	11
Chicago Laboratory.....	13
Chicago Laboratory of Surgical Technique.....	12
Columbus Medical Laboratory.....	12
Gradwohl Biological Laboratories.....	12
Laboratory of Hygiene, Pathology & Bacteriology.....	14
Swan-Myers Co.....	14

## MEDICAL BOOK PUBLISHERS

Saunders Co., W. B.....	front cover
-------------------------	-------------

## MEDICAL SCHOOLS

Chicago College of Medicine and Surgery.....	25
Chicago Eye, Ear, Nose & Throat College.....	25
College of Medicine, Univ. of Ill.....	25

## MUD BATHS

Peoria Mud Baths.....	22
Waukesha Moor (Mud) Bath Co.....	22

## PHARMACEUTICALS

Abbott Laboratories.....	7
Alexander, Dr. H. M., Co.....	9
Bayer Company.....	7
Crittenton, Chas. N. Co.....	30
Harvey, G. F.....	17
Hygeia Sanitarium.....	17
Kenilworth Sanitarium.....	20
Lederle Antitoxin Laboratory.....	31
Mead, Johnson & Co.....	4
Mulford, H. K., & Co.....	10
Parke, Davis & Co.....	16
Phillips Co., Chas. H.....	28
Pitman-Moore Co.....	4
Sherman's Bacterins.....	5
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Swan-Myers Co.....	14
Tilden Co., The.....	6

## SANATORIA & SANITARIA

Bellevue Sanitarium.....	20
Burr Oak Sanitarium.....	22
Cincinnati Sanitarium.....	22
Edward Sanatorium.....	19
Fletcher's Sanatorium.....	21
Norbury Sanitarium.....	19
Milwaukee Sanitarium.....	21
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Pennoyer Sanitarium.....	6
Peoria Sanitarium.....	23
Petty & Wallace's Sanitarium.....	23
Pottenger Sanitarium.....	18
Ransom Sanitarium.....	21
Sulphur Springs Sanitarium.....	23
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium.....	23

## SURGICAL INSTRUMENTS

Mueller & Co., V.....	
-----------------------	--

IN PLACE OF OTHER ALKALIES USE

# Phillips' Milk of Magnesia

"THE PERFECT ANTACID"

For Correcting Hyperacid Conditions—Local or Systemic. Vehicle for Salicylates, Iodides, Balsams, Etc.

Of Advantage in Neutralizing the Acid of Cows' Milk for Infant and Invalid feeding.

## Phillips' Phospho-Muriate of Quinine

Compound

NON-ALCOHOLIC TONIC AND RECONSTRUCTIVE

With Marked Beneficial Action Upon the Nervous System. To be relied Upon Where a Deficiency of the Phosphates is Evident.

THE CHAS. H. PHILLIPS CHEMICAL CO.

NEW YORK

LONDON

### CONTENTS—Continued

#### ORIGINAL ARTICLES—Continued.

Poliomyelitis. C. S. Nelson, M. D., Springfield, Ill.....	260
Notes on a Case of Infantile Paralysis. C. F. Hewins, M. D., Loda, Ill.....	264
Therapeutic Starvation in Infancy. Joseph Brennemann, M. D., Chicago.....	265
Efficiency in Medical Practice. Cecil M. Jack, M. D., Decatur, Ill.....	271
Experimental Reproduction of Accessory Sinus Suppuration. M. F. Arbuckle, M. D., East St. Louis, Ill.....	274
X-Ray, Value of in Localization of Foreign Bodies in Eyeball; With Demonstration and Stereopticon Slides. Hal P. Wells, M. D., Chicago.....	274
Pneumococcal Corneal Ulcers and Their Treatment. W. H. Peck, M. D., Chicago.....	280
Two Years' Clinical Research on the Trachoma Question in Southern Illinois. Edward E. Edmondson, M. D., Mt. Vernon, Ill.....	283
Psychotherapy, a Bit of History and Personal Experience. H. W. Long, M. D., Elmwood, Ill.....	286

#### EDITORIAL.

Another Insinuation.....	293
Hospitalization of Typhoid Fever.....	293
New Russian Publication.....	294
Tuberculosis Notes.....	294

#### PUBLIC HEALTH.

The Poliomyelitis Outbreak in Illinois.....	294
District Health Conferences.....	296
New State Laboratory.....	296
Cumberland County Sanitary Survey.....	296
Survey of Champaign and Urbana.....	297
Typhoid Fever in Elgin.....	297
County Sanitarium Petitions.....	297
Illinois Health Notes.....	297

#### AUTO SPARKS AND KICKS.

Kerosene a Fuel.....	299
"That Car".....	299
One License for All States.....	299

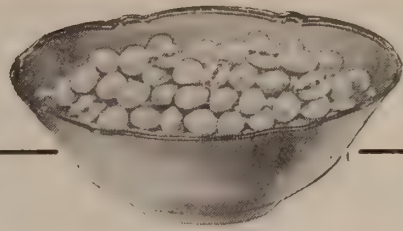
#### SOCIETY PROCEEDINGS.

Iroquois-Ford County.....	300
Personals.....	300
News.....	301
Marriages.....	302
Deaths.....	303
New and Non-Official Remedies.....	303
Book Notices.....	304
County Societies.....	Adv. page 15
Advertisers' Index.....	Adv. page 27
Buyers' Index.....	Adv. page 27



**COUNTY SOCIETIES—Continued.**

<b>Pope County</b>	
J. A. Fisher, Pres.....	Brownsfield
L. S. Barger, Secy.....	Golconda
<b>Pulaski County</b>	
J. F. Hagan, Pres.....	Mound City
W. R. Wessenberg, Secy.....	Mound City
<b>Randolph County</b>	
Wm. R. McKenzie, Pres.....	Chester
John P. Grimes, Secy.-Treas.....	Menard
<b>Richland County</b>	
A. T. Telford, Pres.....	Olney
E. H. Horner, Secy.....	Olney
<b>Rock Island County</b>	
Geo. A. Wiggins.....	Milan
A. E. Williams, Secy.....	Rock Island
<b>St. Clair County</b>	
B. H. Portuondo, Pres.....	Belleville
A. E. Hansing, Secy.....	Belleville
<b>Saline County</b>	
M. D. Impson, Pres.....	Brushy
E. W. Cummins, Secy.....	Harrisburg
<b>Sangamon County</b>	
Arthur E. Prince, Pres.....	Springfield
H. B. Henkel, Secy.....	Springfield
<b>Schuyler County</b>	
A. W. Ball, Pres.....	Rushville
J. C. Steiner, Secy.....	Rushville
<b>Scott County</b>	
J. W. Eckman, Pres.....	Winchester
H. H. Fletcher, Secy.....	Winchester
<b>Shelby County</b>	
F. A. Martin, Pres.....	Tower Hill
Frank P. Auld, Secy.....	Shelbyville
<b>Stark County</b>	
James R. Holgate, Pres.....	Wyoming
Clyde Berfield, Secy.....	Toulon
<b>Stephenson County</b>	
W. B. Peck, Pres.....	Freeport
N. C. Phillips, Secy.....	Freeport
<b>Tazewell County</b>	
H. L. Yoder.....	Morton
F. C. Gale, Secy.....	Pekin
<b>Union County</b>	
G. W. Marrow, Pres.....	Anna
E. V. Hale, Secy.....	Anna
<b>Vermillion County</b>	
A. E. Dale, Pres.....	Danville
O. H. Crist, Secy.....	Danville
<b>Wabash County</b>	
P. G. Manley, Pres.....	Mt. Carmel
A. A. Aukerbrandt, Secy.....	Mt. Carmel
<b>Warren County</b>	
Philo B. Conant, Pres.....	Roseville
H. M. Camp, Secy.....	Monmouth
<b>Washington County</b>	
D. S. Neer, Pres.....	Beaumont
P. B. Rabenneck, Secy.....	Nashville
<b>Wayne County</b>	
T. J. Hilliard, Pres.....	Fairfield
Ostella F. Blakely, Secy.....	Fairfield
<b>White County</b>	
C. B. Staley, Pres.....	Enfield
John Niess, Secy.....	Carmi
<b>Whiteside County</b>	
W. H. Durkee, Pres.....	Fulton
H. N. Schmaling, Secy.....	Fulton
<b>Will County</b>	
A. L. Schreffer, Pres.....	Joliet
Marion K. Bowles, Secy.....	Joliet
<b>Williamson County</b>	
J. G. Parmley, Pres.....	Marion
H. A. Felts, Secy.....	Marion
<b>Winnebago County</b>	
D. B. Penniman, Pres.....	Argyle
C. M. Ranseen, Secy.-Treas.....	Rockford
<b>Woodford County</b>	
F. W. Nickel, Pres.....	Minonk
H. A. Millard, Secy.....	Minonk



## Making Every Atom Feed

In cooking or baking cereals only part of the food cells are broken. Even toasting rarely breaks up half of them.

In Puffed Wheat and Rice every food cell is broken—blasted by steam explosion. So these are the best-cooked foods in existence.

The grains are sealed up in huge guns. The guns are revolved for sixty minutes in a heat of 550 degrees. Thus the trifle of moisture inside of each food cell is changed to explosive steam.

When the guns are shot there occur in each grain over 100 million explosions—one for every food cell. Thus the whole grains are made wholly digestible. Every atom feeds. And Puffed Grains do not tax the stomach.

Prof. A. P. Anderson, formerly of Columbia University, spent years in attaining these perfect foods.

People consume 40 million dishes monthly, just because they like them. But you will find many a case where you wish to advise them when you know the facts, we think.

## The Quaker Oats Company

Chicago

(1416)

**Puffed Wheat, 12c**  
**Puffed Rice, 15c**  
**Corn Puffs, 15c** Corn Hearts Puffed

*Except in Extreme West*

# Hydroleine



Made from pure cod-liver oil emulsified after a scientific formula by approved processes.

The need of many children for cod-liver oil has been met with marked success by Hydroleine. They take it willingly; they—as well as adults—like its distinctive nutty flavor. Hydroleine is also exceptionally digestible. While its scope of usefulness is widened by its palatability and digestibility, it is always notably dependable.

Sold by druggists.  
THE CHARLES N. CRITTENTON CO.  
115 Fulton St., New York  
Sample will be sent to physicians on request.

## WANTED, FOR SALE, AND RENT DEPARTMENT

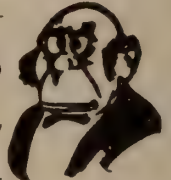
Advertisements under this heading cost one dollar for four lines or less, and 25 cents for each additional line, each insertion. Payable in advance. Line holds eight ordinary words.

### "NEVERSSLIP" UMBILICAL CORD LIGATURE

Our ethical "Sales System" increases your obstetric calls through your jobber's O. K. How? "NSS" Sales Co., Wenona, Ill.

I AM SORRY I  
did NOT advertise

—in the—  
ILLINOIS  
MEDICAL  
JOURNAL



## Doctor—

*Read carefully and  
learn what you  
will receive, if  
you join the  
Illinois  
State Medical  
Society*

YOU get medico-legal protection, membership in your County Medical and Illinois State Medical Societies, and the Illinois Medical Journal. Membership in these makes you eligible to membership in the American Medical Association.

1. MEMBERSHIP IN THE ILLINOIS STATE MEDICAL SOCIETY. All members of a County Medical Society are *ipso facto* members of the State Society and receive all publications of the State Society without additional fees, dues or subscriptions. The Illinois State Medical Society is one of the greatest local medical organizations in the world. Affiliation and association with this large and representative body of men is of great value and importance to every physician.

2. MEDICAL DEFENSE. Out of your annual dues the trustees of your County Medical Society are required to turn \$1.00 over to the "medical defense committee" for the protection and defense of members of the society against whom suits for malpractice or damages may be brought. For years the Illinois State Medical Society has been meeting all expenses of such litigation—court costs, attorney's fees, costs of appeals, witness fees, the cost of record—no limitation being placed on the expense of an individual case.

This means protection against suits for damages for alleged malpractice, as well as attempted blackmail. This one feature alone is worth many times the cost of membership. Private defense companies are charging \$15.00 per year and upwards for the defense feature alone.

Come to the next meeting of the local society of the District in which you live and meet the other physicians of your neighborhood. Fill out the application blank on advertising page 4 and send it, together with membership fee, to the Secretary of your County Society, and thus secure the benefits mentioned.

### QUALIFICATIONS FOR MEMBERSHIP

Every registered physician residing in Illinois, as may be authorized by the State Society, who is of good moral and professional standing, and who does not claim to practice any exclusive system of medicine, shall be eligible for membership.



# Hay Fever

## Convincing Clinical Data Prove Value of Pollen Vaccine

**D**URING 1915, LEDERLE'S *Pollen Vaccine* was used by over 600 physicians for the prophylaxis and treatment of Hay Fever. The clinical data submitted to us show *83 per cent favorable results* from Pollen Vaccine as a prophylactic against Hay Fever, and *89 per cent favorable results* in the treatment of Hay Fever. Asthmatic symptoms were relieved in 84.2 per cent of the cases.

LEDERLE'S is a combined *Pollen Vaccine* containing pollen from all the common grasses, weeds and flowering plants which are known to be important in causing hay-fever in the spring and fall.

Lederle's POLLEN VACCINE is supplied in the following packages:

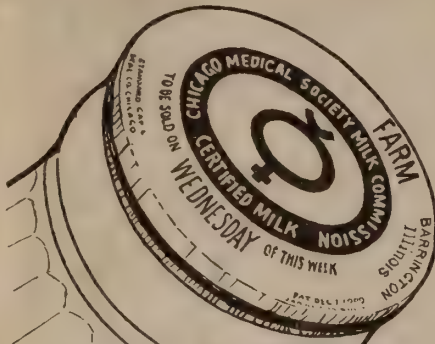
1. Complete vaccine treatment, containing doses 1 to 15, inclusive. Price..... **\$15.00**
2. Series A, containing doses 1 to 5 only. Price..... **5.00**
3. Series B, containing doses 6 to 10 only. Price..... **5.00**
4. Series C, containing doses 11 to 15 only. Price..... **5.00**

Booklet sent on request.

**Lederle Antitoxin Laboratories**

**Schieffelin & Co., Distributors**

**New York**



This seal of the Chicago Medical Society Milk Commission on every bottle of Certified Milk or Cream is stamped with the date the milk should be delivered to you. It is a valuable insurance policy on the purity and wholesomeness of your milk.

# Certified Milk Is PURE Milk

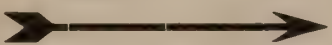
and every drop is clean.

Certified to by the Chicago Medical Society Milk Commission, under whose rigid inspection every drop of Certified Milk is produced.

Clean and proper feed, clean cows, clean milkers, clean barns, sterilized bottles sealed and kept in ice at 45° until delivered at your door. **EVERY STEP OF EVERY DROP** of Certified Milk keeps it clean and pure from the cow's feed right up to your door.

Nothing is done to Certified Milk except keep it pure. It is never mixed with other milk—it is never treated in any way. It is the product of pure food fed to healthy cows, sealed and packed in ice and delivered at your door the same day or the next.

## Certified Milk



*Is Safe for Family Use.*

*Is Safe for Infants and Invalids.*

*Is Safe for Everybody All the Time.*

*Costs More, but is worth it.*



# Illinois Medical Journal

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Vol. XXX, No. 5

CHICAGO, NOVEMBER, 1916

\$2.00 a Year

## CONTENTS

ORIGINAL ARTICLES	PAGE		PAGE
Some Fundamental Causes of Disease. <i>William Seaman Bainbridge, M. D., New York City</i> .....	305	The Relation of the Roentgenologist to the Physician and Surgeon. <i>E. Blaine, M. D., Chicago</i> .....	338
Individuation in the Study of Mental Disorders. <i>Frank P. Norbury, M. D., Jacksonville, Ill.</i> .....	310	Chronic Ethmoiditis and its Treatment. <i>Otis H. Maclay, M. D., Chicago</i> .....	342
Angina Pectoris. <i>S. E. Munson, M. D., Springfield, Ill.</i> .....	315	Co-operation Between the County Medical Societies and the State Board of Health for the Good of the Commonwealth. <i>C. St. Clair Drake, M. D., Springfield, Ill.</i> .....	344
The Responsibility of the Medical Profession in the Management of the Hard of Hearing and the Deaf. <i>Joseph C. Beck, M. D., Chicago</i> .....	322	Printer's Ink in Organization. <i>Thomas P. Foley, M. D., Chicago</i> .....	349
Prognosis and Treatment of Diabetes as influenced by Recent Studies. <i>Solomon Strouse, M. D., Chicago</i> .....	332	A Valuable Aid in Our Work. <i>E. W. Fiegenbaum, M. D., Edwardsville, Ill.</i> .....	352

(Continued on adv. page 28)

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879.

JUST OUT—NEW (5th) EDITION

## Jordan's General Bacteriology

This edition contains a great deal of new matter. A new chapter on typhus fever has been added; the sections on disinfection and on the testing of disinfectants have been rewritten, with a full discussion of the newer modes of procedure. The important work on the varieties and distribution of pneumococci is considered, and new sections on the Schick reaction, mouth entamebæ, and Hodgkin's disease added. These are the more important additions, but every page has been subjected to a systematic scrutiny with the purpose of bringing the work right down to the minute.

In Dr. Jordan's work the *non-pathogenic* as well as the *pathogenic bacteria* are considered, giving greater emphasis, of course, to the latter. There are extensive chapters on methods of studying bacteria; on development and composition of bacteria; on enzymes and fermentation products; on the bacterial production of pigment, acid, and alkali; and on ptomains and toxins. *Serum therapy* is considered in connection with each bacterium.

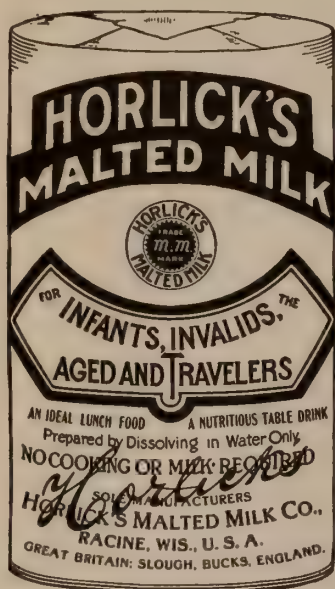
This work also contains chapters on the bacteriology of plants; of milk and milk products, of air, agriculture, water, food preservatives, etc. The processes of leather tanning, tobacco curing, and vinegar making are detailed in full and the bacteriology of these industries carefully presented. There are also chapters on the *relations of bacteriology to household administration* and to sanitary engineering.

Octavo of 669 pages illustrated. By EDWIN O. JORDAN, Ph.D., Professor of Bacteriology, University of Chicago. Cloth, \$3.25 net.

W. B. SAUNDERS COMPANY,

Philadelphia and London

This Issue 6,750 Copies



## **THIS IS THE PACKAGE!**

(others are imitations)

*And is your guarantee and protection against the concerns, who led by the success of the Horlick's Malted Milk Company, are manufacturing imitation malted milks which cost the consumer as much as "Horlick's."*

Always specify

# **Horlick's, the Original**

And avoid substitutes

## **That little red number**

on the label of every one of our products, from a tube of 20 hypodermics to—say a barrel of aromatic cascara, is the "open sesame" to its life history. *Put us to this test, please.* Send us the little red number copied from any of our labels—nothing more.

We will tell you what the product is, when and by which staff member it was made, tested and packaged, and all the rest of its life history in our laboratories.

*Our numbering system acts as an automatic air-brake that prevents mistakes and insures accuracy*

## **SHARP & DOHME**

since 1860

**"QUALITY PRODUCTS"**



**Stanolind**  
Trade Mark Reg. U.S. Pat. Off.  
**Liquid Paraffin**  
(Medium Heavy)

Tasteless—Odorless—Colorless

Throws No Burden  
on Liver or Kidneys

Stanolind Liquid Paraffin, being non-absorbable, throws no extra labor on liver or kidneys. These organs are often greatly embarrassed by the enormous amount of extra work given them by the free use of laxative mineral waters and other drugs.

For this reason Stanolind Liquid Paraffin, being mechanical in action, is pointedly indicated as a gentle laxative in cases of Bright's Disease, hepatic cirrhosis and other conditions in which these great vital organs are crippled.

The beneficial effects of Stanolind Liquid Paraffin are not diminished by continual use, as is the case with almost every other laxative. Stanolind Liquid Paraffin should be regarded rather as a mechanical than as a strictly medicinal agency.

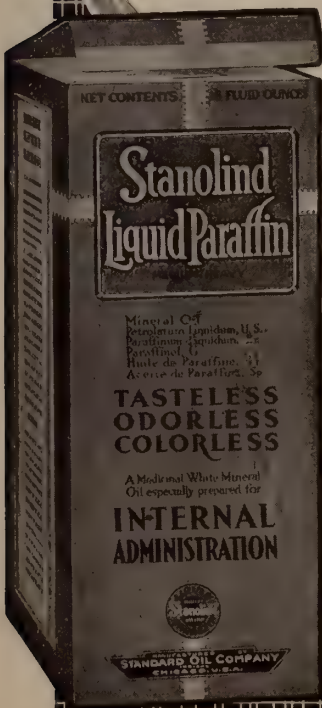
When the effective dose of Stanolind Liquid Paraffin is found, it is unnecessary to increase it, but, on the other hand, it may, in most cases, be gradually lessened.

*A trial quantity with informative booklet will be sent on request.*

**Standard Oil**  
**Company**  
(Indiana)

72 West Adams Street  
Chicago, U. S. A.

68



## Sugar is an Extremely Important Constituent in Infant Feeding BUT

## YOU MUST SELECT THE RIGHT SUGAR

A large part of the troubles of infant feeding has been shown to be due to the ingestion of milk sugar or cane sugar.

## MEAD'S DEXTRI-MALTOSE

from the standpoint of DIGESTIBILITY and ASSIMILABILITY represents the properly balanced carbohydrate. Composition—Maltose 52%, Dextrin 41.7%, Sodium Chloride 2%.

Administration—1½ oz. Dextri-Maltose (2 heaping tablespoonfuls) to any milk and water mixtures suited to age and weight.

Literature and Samples on Request

**Mead Johnson & Co.**

**Evansville, Ind.**

There are many grades of crude drugs  
offered for sale on the drug market

*But—*

There is only one "best"

It takes the best grade of crude drug, the highest grade of workmanship, together with the most accurate and "time-tried" methods to make



**PITMAN-MOORE COMPANY, Chemists**  
INDIANAPOLIS, INDIANA



## Hoyt's Gum Gluten DIABETIC FOODS

Supplies the much needed variety to be used in place of the forbidden wheat products.

You will find from our analyses that you can regulate your patient's diet to your entire satisfaction by prescribing Hoyt's Gum Gluten.

Send for analyses, Starch Restricted Diet, etc.

**The Pure Gluten Food Company**  
99 West Broadway NEW YORK CITY

## Hay Fever

LOGICALLY TREATED

WITH

## SHERMAN'S BACTERINS

Pollen irritation favors the development of pyogenic bacteria in the respiratory tract which then become a primary factor of the disease. Experience shows that the immunizing influence of an appropriate bacterin will either cure the disease or so modify it that it causes but little distress.

WRITE OR LITERATURE

**G. H. SHERMAN, M. D.**  
DETROIT, MICHIGAN



## Bran Food

### Can You Tell Us How To Make It Better?

Can you tell us how to make a bran food better than Pettijohn's of today?

Here is a breakfast dainty—whole grains of soft wheat flaked. Everybody likes it. Folks gladly eat it daily.

These flakes hide 25 per cent. of bran. It is unground bran—flake bran—the sort that is efficient.

Is there any way to make a bran food more ideal than this? If not, please mention Pettijohn's.

## *Pettijohn's*

*Rolled Wheat with Bran Flakes*

This is soft, flavory wheat rolled into luscious flakes, hiding 25 per cent. of unground bran. Can be cooked in 20 minutes. 15c per package.

**Pettijohn's Flour** is another bran product. It is 75 per cent. fine patent flour mixed with bran flakes—25 per cent. To be used like Graham flour in any recipe. 25c per large package.

**The Quaker Oats Company**

Chicago

(1413)

<b>Antituberculous</b> <b>FORMULA:</b>	<b>FIROLYPTOL with KREOSOTE</b> Cotton Seed Oil      Morson's White Label Kreosote <i>Free Samples to the Profession</i> <b>THE TILDEN COMPANY</b> Manufacturing Pharmacists and Chemists Since 1848	<b>Antistrumous</b> Firwein, Eucalyptol
NEW LEBANON, N. Y.		ST. LOUIS, MO.

**THE Pennoyer**  
*Established 1887*  
 Kenosha, Wis., between Chicago and Milwaukee on the North-Western R. R. First Health Resort and Sanitarium on Lake Michigan. Beautiful environment—a mile of lake shore. For illustrated prospectus address N. A. Pennoyer, M. D.

*"Sutures fit for Surgery"*  
**DAVIS & GECK, INC.**  
 Brooklyn, N.Y., U.S.A.

**DOCTOR:** It is our purpose to give to you on your orders, the best pharmaceuticals that the highest grade of crude drugs, pure chemicals and skilled workmanship, under experienced supervision, can produce.

When our man calls upon you, give him a few moments of your time. He will tell you more about what we are trying to do.

**G. D. SEARLE & CO.** *Mfrs. of* **Fine Pharmaceuticals and Hypodermic Tablets**  
 215-217-219 W. Ohio St. CHICAGO Telephone North 1704

## Special INFANT FEEDING Malnutrition-Marasmus-Atrophy

MELLIN'S FOOD	}	Analysis:	Fat	.49
4 level tablespoonfuls			Protein	2.28
SKIMMED MILK			Carbohydrates	6.59
8 fluidounces			Salts	.58
WATER			Water	90.06
8 fluidounces				100.00

The principal carbohydrate in Mellin's Food is maltose, which seems to be particularly well adapted in the feeding of poorly nourished infants. Marked benefit may be expected by beginning with the above formula and gradually increasing the Mellin's Food until a gain in weight is observed. Relatively large amounts of Mellin's Food may be given, as maltose is immediately available nutrition. The limit of assimilation for maltose is much higher than other sugars, and the reason for increasing this energy-giving carbohydrate is the minimum amount of fat in the diet made necessary from the well-known inability of marasmic infants to digest enough fat to satisfy their nutritive needs.

MELLIN'S FOOD COMPANY,

BOSTON, MASS.



# COUGHS, COLDS *and* CROUP

## Yield To



# Calcidin

## BE PREPARED FOR WINTER EMERGENCIES

Calcidin (Abbott) is an emergency remedy which seldom fails to give results in the treatment of Coughs, Colds, Croup, Influenza, Grip, Bronchitis, Rhinitis and Laryngitis.

Calcidin is the one remedy which stands pre-eminent as a reliable and effective agent for the quick relief of all catarrhal conditions of the respiratory tract.

It is used successfully by thousands of doctors. You can get equally good results. You will need Calcidin particularly during the Fall and Winter. Order a plentiful supply now and see that your druggist is stocked.

1-3-grain tablets.....	100, \$0.23;	500, \$0.75;	1000, \$1.35
1-grain tablets.....	100, .34;	500, 1.30;	1000, 2.45
2 1-2-grain tablets.....	100, .54;	500, 2.30;	1000, 4.45
5-grain tablets.....	100, .80;	500, 3.60;	1000, 7.05
Pure powder, in 1-ounce packages, per dozen.....	5.00		
In less than half-dozen quantities, per package.....	.50		

For Canadian prices, add 25%.

Delivery prepaid for cash with order. Money back if not satisfied.

For dispensing supplies send your orders to the nearest point. See below. For the convenience of your pharmacist, jobbers are stocked. If you prescribe, be sure to specify "Abbott's," thus guarding against worthless imitations.

A trial sample of the various tablets listed, accompanied by literature in detail, will be sent on request.

## THE ABBOTT LABORATORIES

CHICAGO - - NEW YORK

SEATTLE

SAN FRANCISCO

LOS ANGELES

TORONTO

BOMBAY

# READER!

are you buying your supplies from our advertisers?

Our advertising pages are your property as a member of the Illinois State Medical Society. Advertisers will pay for space in proportion as you buy from them, and thus make the space valuable to them.

Order now, and write that you saw the "ad" in the JOURNAL.

## Bureau of Chemistry, U. S. Department of Agriculture:

"The spurious aspirin is a mixture of either calcium phosphate and starch, cream of tartar and citric acid with some alum; or milk sugar, starch and calcium acid phosphate."—(From N. Y. Department of Health "Weekly Bulletin", Nov. 6, 1915)

By Specifying

# Bayer-Tablets

OF

# Aspirin

(5 grs. each)

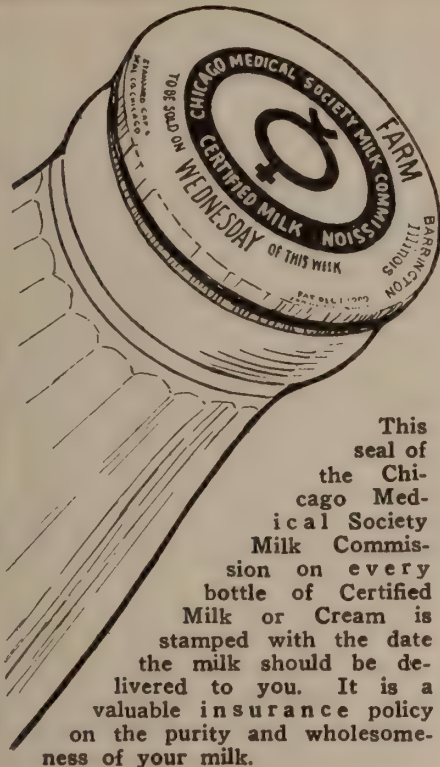
The trade-mark "Aspirin" (Reg. U. S. Pat. Office) is a guarantee that the monacetic acid ester of salicylic acid in these tablets is of the reliable Bayer manufacture.

# You Avoid Counterfeits

## Be Sure of Your Aspirin

"Recent seizures in various cities of the country of numerous quantities of spurious aspirin make it important that the druggist should assure himself in all cases of the reliability of the source of his supply."—**Pacific Drug Review**, Feb., 1916.





# Certified Milk Is PURE Milk

and every drop is clean.

Certified to by the Chicago Medical Society Milk Commission, under whose rigid inspection every drop of Certified Milk is produced.

Clean and proper feed, clean cows, clean milkers, clean barns, sterilized bottles sealed and kept in ice at 45° until delivered at your door. **EVERY STEP OF EVERY DROP** of Certified Milk keeps it clean and pure from the cow's feed right up to your door.

Nothing is done to Certified Milk except keep it pure. It is never mixed with other milk—it is never treated in any way. It is the product of pure food fed to healthy cows, sealed and packed in ice and delivered at your door the same day or the next.

## Certified Milk



*Is Safe for Family Use.*

*Is Safe for Infants and Invalids.*

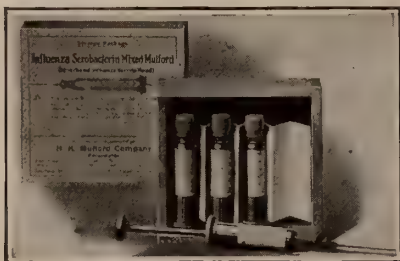
*Is Safe for Everybody All the Time.*

*Costs More, but is worth it.*

# "An Ounce of Prevention Is Worth a Pound of Cure"

Immunize your patients against Influenza and "Colds" NOW and do not wait until respiratory affections are prevalent.

Influenza Serobacterin Mixed Mulford will give immunity from attacks of "Colds" and influenza to a large percentage of patients suffering with periodic attacks of disease of the respiratory passages caused by the organisms used in preparing the serobacterin.



Supplied in packages containing four aseptic glass syringes.

Syringes contain killed sensitized bacteria as follows:

	Syringe A	Syringe B	Syringe C	Syringe D
<i>B. influenzae</i> . . . . .	125	250	500	1000 million
<i>Staphylococcus albus</i> . . . . .	125	250	500	1000 million
<i>Staphylococcus aureus</i> . . . . .	125	250	500	1000 million
<i>Streptococcus</i> . . . . .	125	250	500	1000 million
<i>Pneumococcus</i> . . . . .	125	250	500	1000 million
<i>M. catarrhalis</i> (group) . . . . .	125	250	500	1000 million

Literature describing method of treatment and dosage, together with special educational bulletins for distribution to your patients, sent on request.



## H. K. MULFORD COMPANY

Manufacturing and Biological Chemists

HOME OFFICE AND LABORATORIES  
PHILADELPHIA, U. S. A.





## WASSERMANN TEST \$5.00

All Serological Tests \$5.00. Pathological Examination of Tissue, \$5.00. Autogenous Vaccines, \$5.00. Sputum, Smears, Pus, etc., \$1.00. Urinalysis, Complete Chemical and Microscopical, \$1.50. All other work in keeping with the above low prices. Examinations performed by experts in their respective fields.



Main Laboratory

## We Analyze Everything

Write for our fee table with instructions for sending specimens. Containers and culture media on request.

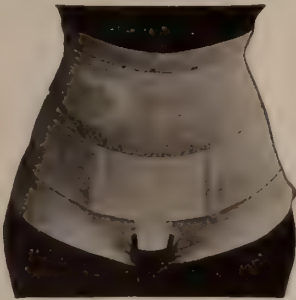
### ACCURACY LABORATORIES

1724-1726 W. Madison Street, CHICAGO, ILL.

Laboratory Instruction Given to Physicians

## The STORM Binder and Abdominal Supporter

PATENTED



Special High Kidney Belt

MEN, WOMEN, CHILDREN and BABIES

No Whalebones. No Rubber Elastic.  
Washable as Underwear

High and Low Operations, Hernia,  
Relaxed Sacro-iliac Articulations,  
Floating Kidney, Obesity, Preg-  
nancy, Ptosia, Pertussis, etc.

Send for illustrated folder and Testimonials of Physicians.  
Mail Orders filled within Twenty-four Hours.

KATHERINE L. STORM, M. D.  
1541 Diamond St., PHILADELPHIA, PA.

## 50% Better Prevention Defense Indemnity

1. All claims or suits for alleged civil malpractice, error or mistake, for which our contract holder,
2. Or his estate is sued, whether the act or omission was his own
3. Or that of any other person (not necessarily an assistant or agent),
4. All such claims arising in suits involving the collection of professional fees,
5. All claims arising in autopsies, inquests and in the prescribing and handling of drugs and medicines.
6. Defense through the court of last resort and until all legal remedies are exhausted.
7. Without limit as to amount expended.
8. You have a voice in the selection of local counsel.
9. If we lose, we pay to amount specified, in addition to the unlimited defense.
10. The only contract containing all the above features and which is protection per se.

A Sample Upon Request

The  
MEDICAL PROTECTIVE COMPANY  
9<sup>th</sup> Ft. Wayne, Indiana.

Professional  
Protection, Exclusively

# LABORATORY ANALYSES OF ALL KINDS



Mixing Pasteur Treatment

## Wassermann Test

Controlled by the best method, giving most reliable data of all serological tests for syphilis.

## Hecht Weinberg Gradwohl Test

Both Tests . . . . . \$5.00

Complete Urine Analysis, 1.00

Complete Blood Chemical Analysis . . \$10.00

(Urea nitrogen, uric acid, creatinine, sugar, in blood.)

Pasteur Treatment for Rabies reduced

to - . . . . . \$30.00

(18 doses, with glass syringe and needles.)

All other laboratory tests at equally moderate rates.

We supply containers and literature FREE on demand.

We have methods of enabling us to receive blood sent from a distance in good shape for chemical analysis.

Write us for Free Booklet on Blood Chemistry.

**GRADWOHL BIOLOGICAL LABORATORIES, 928 N. Grand Ave., St. Louis, Mo.**

R. B. H. GRADWOHL, M. D., Director

ESTABLISHED 1893

# Columbus Medical Laboratory

31 N. STATE ST., CHICAGO

ADOLPH GEHRMAN, Pres.

Send your *pathologic specimens* to us for diagnosis.

We can assure you a valuable and prompt service.

Write for instructions and fee table.

Let us make complete examinations in *post-mortem* studies.

Ask for advice in cases of *suspected poisoning* and toxicological work

Consult us when you have *medico-legal cases*.

**COLUMBUS MEDICAL LABORATORY**

Columbus Memorial Building

CHICAGO, ILL.





## CHICAGO LABORATORY

CLINICAL ANALYTICAL

Marshall Field Annex Bldg.

Established 1904

25 EAST WASHINGTON STREET

Telephone Randolph 3610

CHICAGO

### Complement Fixation

In chronic arthritic cases a Complement Fixation Test for Gonorrhea is often of value in establishing a correct diagnosis.

Send for containers and instructions how to obtain the blood for this test.

*Our names and reputations stand back of our work*

RALPH W. WEBSTER, M.D., Ph.D., Director of Chemical Department

THOMAS L. DAGG, M.D., Director of Pathological Department

C. CHURCHILL CROY, M.D., Director of Bacteriological Department



# Chicago Pasteur Institute

25th YEAR

812 NORTH DEARBORN STREET

CHICAGO

FOR THE PREVENTIVE TREATMENT OF HYDROPHOBIA

ANTONIO LAGORIO, M.D. LL.D., Medical Director

G. B. BRUNO, M.D., Associate Director

FRANK A. LAGORIO, M.D., Associate Director

**Announcement**—Since October, 1910, this institute has taken an advanced progressive step in abandoning the old methods now in vogue, discarding the cords treatment, and in adopting instead the use of the brain substance properly treated and attenuated and rendered safe by having its virulence destroyed. Telephone Superior 973.

*N. B.—We have no branches and the use of our name is unauthorized.*

WASSERMANN

CHEMICAL

HISTO-PATHOLOGICAL

Prices EQUAL TO THE REST

## LABORATORY OF HYGIENE, PATHOLOGY AND BACTERIOLOGY

DR. MAXIMILIAN HERZOG

DR. MEYER D. MOLEDEZKY

1604 MALLERS BUILDING

5 SOUTH WABASH AVE., CHICAGO

PHONES RANDOLPH 5794-5795

Work EQUAL TO THE BEST and BETTER THAN THE REST

VACCINES

MICROSCOPICAL

BACTERIOLOGICAL

# Swan's Rheumatic Bacterin

**M**ADE from a number of strains of Streptococcus obtained by blood cultures from cases of acute and chronic Arthritis.

The most specific treatment for arthritic conditions known to modern medicine.

In 20 c. c. (Mil.)

Rubber

Stoppered Vials

**\$3.00**

Literature and complete directions with each stock package.

**SWAN-MYERS COMPANY**
*Pharmaceutical and Biological Laboratories*

INDIANAPOLIS, IND., U. S. A.



# ILLINOIS STATE MEDICAL SOCIETY

## SECTION OFFICERS AND COMMITTEES

**SECTION ONE**  
 Frederick Tice, Chairman.....Chicago  
 C. Martin Wood, Secretary.....Decatur

**SECTION TWO**  
 James H. Finch, Chairman.....Champaign  
 John S. Nagel, Secretary.....Chicago

**SECRETARY'S CONFERENCE**  
 H. B. Henkel, Chairman.....Springfield

Ossella Blakely, Secretary.....Fairfield

**SECTION ON PUBLIC HEALTH AND HYGIENE**  
 G. F. Ruediger, Chairman.....La Salle  
 Grace H. Campbell.....Chicago

**SECTION ON EYE, EAR, NOSE AND THROAT**  
 R. J. Tivnen, Chairman.....Chicago  
 J. Sheldon Clark, Secretary.....Freeport

## COUNTY SOCIETIES

This list is corrected in accordance with the best information obtainable at the date of going to press.  
 County Secretaries are requested to notify The Journal of any changes or errors.

**Adams County**  
 Dan G. Stine, Pres.....Quincy  
 Elizabeth B. Ball, Secy.....Quincy

**Alexander County**  
 W. F. Grinstead, Pres.....Cairo  
 H. A. Davis, Secy.-Treas.....Cairo

**Bond County**  
 W. T. Easley, Pres.....Greenville  
 J. C. Wilson, Secy.....Greenville

**Boone County**  
 Geo. Markley, Pres.....Poplar Grove  
 H. E. Delavergne, Secy.....Belvidere

**Brown County**  
 D. R. Peters, Pres.....Timewell  
 E. C. Allworth, Secy.-Treas.....Mt. Sterling

**Bureau County**  
 C. C. Barrett, Pres.....Princeton  
 M. A. Nix, Secy.....Princeton

**Calhoun County**  
 W. A. Skeel, Pres.....Kampsville  
 J. H. Peisker, Secy.....Hardin

**Carroll County**  
 W. W. McGrath, Pres.....Savanna  
 R. B. Rice, Secy.-Treas.....Mt. Carroll

**Cass County**  
 C. E. Soule, Pres.....Beardstown  
 W. R. Blackburn, Secy.....Virginia

**Champaign County**  
 J. H. Finch, Pres.....Champaign  
 Wm. V. Secker, Secy.....Champaign

**Christian County**  
 R. C. Danford, Pres.....Pana  
 S. B. Herdman, Secy.....Taylorville

**Clark County**  
 S. W. Weir, Pres.....West Union  
 S. C. Bradley, Secy.....Marshall

**Clay County**  
 C. E. Duncan, Pres.....Flora  
 R. D. Finch, Secy.....Flora

**Clinton County**  
 J. A. Bauer, Pres.....Germantown  
 J. Q. Roane, Secy.....Carlyle

**Coles County**  
 Edmund Summers, Pres.....Mattoon  
 R. H. Craig, Secy.....Charleston

**Cook County**  
 Chas. J. Whalen, Pres.....Chicago  
 C. E. Humiston, Secy.....Chicago

**Crawford County**  
 A. G. Brooks, Pres.....Stoy  
 C. E. Price, Secy.....Robinson

**Cumberland County**  
 N. J. Hauton, Pres.....Greenup

**DeKalb County**  
 L. E. Barton, Pres.....Malta  
 J. B. Hagey, Secy.....DePalb

**De Witt County**  
 J. C. Myers, Pres.....Clinton  
 Charles W. Carter, Secy.....Clinton

**Douglas County**  
 I. N. C. McKinney, Pres.....Murdock  
 Walter C. Blaine, Secy.....Tuscola

**Du Page County**  
 (Affiliated with Cook County)

**Edgar County**  
 Wm. A. Buchanan, Pres.....Paris  
 George H. Hunt, Secy.....Paris

**Edwards County**  
 C. S. Brannen, Pres.....Albion  
 W. E. Buxton, Secy.....West Salem

**Effingham County**  
 Geo. Haumesser, Pres.....Effingham  
 F. N. A. Hoffman, Secy.....Effingham

**Fayette County**  
 A. E. Greer, Pres.....Brownstown  
 A. R. Whitefort, Secy.....St. Elmo

**Franklin County**  
 Wm. H. Smith, Pres.....Benton  
 Edgar Austin, Secy.....Benton

**Fulton County**  
 J. C. Simmons, Pres.....Canton  
 B. E. Ray, Secy.-Treas.....Cuba

**Gallatin County**  
 J. W. Bowling, Pres.....Shawneetown  
 A. B. Capel, Secy.....Shawneetown

**Greene County**  
 C. R. Thomas, Pres.....Roodhouse  
 H. A. Chapin, Secy.....White Hall

**Grundy County**  
 Roscoe Whitman, Pres.....Morris  
 F. C. Bowker, Secy.....Morris

**Hamilton County**  
 P. M. Nation, Pres.....McLeansboro  
 I. M. Asbury, Secy.....McLeansboro

**Hancock County**  
 Blair Kelley, Pres.....Ferris  
 S. M. Parr, Secy.....Carthage

**Hardin County**  
 W. J. J. Paris, Pres.....Rosiclare  
 F. A. Jones, Secy.....Rosiclare

**Henderson County**  
 W. J. Emerson, Pres.....Carman  
 I. F. Harter, Secy.....Stronghurst

**Henry County**  
 Chas. F. Young, Pres.....Geneseo  
 P. J. McDermott, Secy.....Kewanee

**Iroquois-Ford District**  
 Martha Anderson, Pres.....Roberts  
 D. W. Miller, Secy.....Gilman

**Jackson County**  
 Harriet N. Daniel, Pres.....Murphysboro  
 C. M. Thompson, Secy.....Makanda

**Jasper County**  
 W. E. Franke, Pres.....Newton  
 James P. Prestley, Secy.-Treas.....Newton

**Jefferson County**  
 Todd P. Ward, Pres.....Mt. Vernon  
 Andy Hall, Secy.....Mt. Vernon

**Jersey County**  
 A. A. Barnett, Pres.....Jerseyville  
 H. R. Bohannon, Secy.....Jerseyville

**Jo Daviess County**  
 A. T. Nadig, Pres.....Elizabeth  
 T. J. Stafford, Secy.....Stockton

**Johnson County**  
 C. D. Nobles, Pres.....Buncombe  
 H. W. Walker, Secy.....Grantsburg

**Kane County**  
 W. H. Schwingel, Pres.....Aurora  
 Robt. S. Denney, Secy.-Treas.....Aurora

**Kankakee County**  
 Joseph A. Guertin, Pres.....Kankakee  
 C. F. Smith, Secy.....Kankakee

**Kendall County**  
 R. A. Schaefer, Pres.....Plano  
 Robt. McClelland, Secy.....Yorkville

**Knox County**  
 A. C. Keener, Pres.....Altona  
 G. S. Bower, Secy.....Galesburg

**Lake County**  
 John P. O'Neil, Pres.....Highland Park  
 C. S. Ambrose, Secy.-Treas.....Waukegan

**La Salle County**  
 R. C. Fullenweider, Pres.....La Salle  
 E. E. Perisho, Secy.....Streator

(Continued on page 17)

# SILVOL

**A Powerful Non-Toxic, Non-Irritating Germicide for the Treatment of Infections of Mucous Membranes.**

Contains approximately 20 per cent. of metallic silver. Freely soluble in water; no sediment on standing. Does not coagulate albumin; is not precipitated by proteids or alkalies. Its germicidal power has been conclusively demonstrated clinically. Indicated in the treatment of

Conjunctivitis,  
Corneal Ulcer,  
Trachoma,  
Rhinitis,  
Sinus Infections,

Otitis Media,  
Pharyngitis,  
Tonsillitis,  
Laryngitis,  
Gonorrhea (all stages),

Cystitis,  
Posterior Urethritis,  
Vaginitis,  
Cervical Erosions,  
Endometritis, Etc.

Used in aqueous solutions of 5 to 50 per cent.

POWDER: Bottles of one ounce.

CAPSULES (6-grain): Bottles of 50.

Contents of two capsules make one-fourth ounce of a 10-per-cent. solution.

◆ ◆ ◆

SILVOL OINTMENT (5 per cent.), for application to regions where the use of an aqueous antiseptic solution is not feasible. Small and large collapsible tubes with elongated nozzle.

LITERATURE WITH EACH PACKAGE.

Home Offices and Laboratories,  
Detroit, Michigan.

**PARKE, DAVIS & CO.**

# GERMICIDAL SOAP

**Antiseptic. Disinfectant. Deodorant. Sterilizer. Lubricant. Cleanser.**

Germicidal Soap combines the powerful antiseptic mercuric iodide with a soap made from pure vegetable oils.

## A FEW SUGGESTIONS.

To prepare antiseptic solutions.  
To sterilize hands, instruments and site of operation.  
To cleanse wounds, ulcers, etc.  
To lubricate sounds and specula.  
To destroy infecting organisms in skin diseases.  
To disinfect surface lesions.

To control the itching of skin infections.  
To make solutions for the vaginal douche.  
To counteract the odors of offensive hyperhidrosis.  
To destroy pediculi.  
To cleanse the hair and scalp.  
To remove and prevent dandruff.  
To disinfect vessels, utensils, etc.

Germicidal Soap does not attack nicked or steel instruments. It does not coagulate albumin.

Germicidal Soap, 2% (contains 2% of mercuric iodide): large cakes, one in a carton.

Germicidal Soap, Mild, 1%: large cakes, one in a carton; small cakes, five in a carton.

For other forms see our catalogue.

**SPECIFY "P. D. & Co." WHEN ORDERING.**

Home Offices and Laboratories,  
Detroit, Michigan.

**PARKE, DAVIS & CO.**



# • IODÉOL • INJECTABLE IODINE

## WHEN ORDERING, SPECIFY EXACT FORM NEEDED:

**Iodéol:** 1cc Ampoules (20% susp.) for intramuscular injection; 4-grain capsules (25% susp. — internal); 15½-gm. and 45-gm. vials (50% susp. — external); Ovules (25% susp. — gynecological).

**Iodagol:** 2cc Ampoules (25% susp.) and vials of 20-gm. and 45-gm. (25% susp.) for urethral injection.

**Iodagol Dressing:** Vials of 20-gm. and 45-gm. (25% susp.) for wounds and open surfaces.

## THE ONLY ELECTRO, COLLOIDAL IODINE

Iodine, pure and uncombined, fitted for a wide variety of therapeutic uses.

Iodine reduced to the colloidal state and thus rid entirely of the irritating, caustic and toxic properties of ordinary iodine. Injectable and ingestible with impunity. Rapidly absorbed and diffused, yielding uncommonly good results in:

**Tuberculosis (all types)**  
**Pulmonary and Bronchial Affections**  
**Typhoid Fever and**  
**Gynecological Affections**  
**Furunculosis, etc., etc.**

Send your address on a postcard and it will be placed on the complimentary mailing list of the new medical quarterly, "ELECTRO-COLLOIDAL IODINE THERAPY," keeping you informed of the most approved modern practice in this important field.



## COUNTY SOCIETIES—Continued

Lawrence County	
E. M. Cooley, Pres.	Lawrenceville
Thos. Kirkwood, Secy.	Lawrenceville
Lee County	
Chas. C. Kost, Pres.	Dixon
Edmund B. Owens, Secy.	Dixon
Livingston County	
A. B. Richardson, Pres.	Emington
John Ross, Secy.	Pontiac
Logan County	
W. W. Coleman, Pres.	Lincoln
H. S. Oyler, Secy.	Lincoln
McDonough County	
E. R. Miner, Pres.	Macomb
Geo. S. Duntley, Secy.	Bushnell
McHenry County	
C. W. Goddard, Pres.	Harvard
N. L. Seelye, Secy.	Harvard
McLean County	
Edwin P. Sloan, Pres.	Bloomington
Thos. D. Cantrell, Secy.	Bloomington
Macon County	
M. P. Parish, Pres.	Decatur
F. E. Smith, Secy.	Decatur
Macoupin County	
F. A. Renner, Pres.	Benld
T. D. Doan, Secy.	Scottville
Madison County	
R. D. Luster, Pres.	Granite City
E. W. Fiegenbaum, Secy.	Edwardsville
Marion County	
G. M. Gimbill, Pres.	Centralla
S. A. Smith, Secy.	Odin
Marshall-Putnam County	
R. R. Eddington, Pres.	Lacon
E. S. Gillespie, Secy.	Wenona

Mason County	
H. O. Rogier, Pres.	Mason City
W. R. Grant, Secy.	Easton
Massac County	
J. A. Orr, Pres.	Metropolis
J. A. Helm, Secy.	Metropolis
Menard County	
W. A. Mudd, Pres.	Athens
L. E. Orr, Secy.	Tallula
Mercer County	
F. J. Rathbun, Pres.	New Windsor
A. N. Mackey, Secy.	Aledo
Monroe County	
S. Kohlenbach, Pres.	Columbia
L. Adelsberger, Secy.	Waterloo
Montgomery County	
Z. V. Kimball, Pres.	Hillsboro
H. F. Bennett, Secy.	Litchfield
Morgan County	
T. O. Hardesty, Pres.	Jacksonville
T. G. McLin, Secy.	Jacksonville
Moultrie County	
C. W. Taylor, Pres.	Bethany
O. M. Williamson, Secy.	Sullivan
Ogle County	
L. M. Griffin, Pres.	Polo
J. T. Kretsinger, Secy.	Leaf River
Peoria City Medical Society	
C. D. Thomas, Pres.	Peoria
E. W. Oliver, Secy.	Peoria
Perry County	
J. S. Templeton, Pres.	Pickneyville
J. D. Byrne, Secy.	Du Quoin
Platt County	
W. G. McPharson, Pres.	Bement
B. L. Barker, Secy.	Monticello
Pike County	
R. P. Wells, Pres.	Pleasant Hill
W. E. Shastid, Secy.	Pittsfield

(Continued on page 29)

## THE OTTAWA TUBERCULOSIS COLONY

OTTAWA, ILL.

is devoid of the "institutional atmosphere."  
It is designed and conducted to meet the  
requirements of patients who demand

**Privacy and  
Individual Attention**

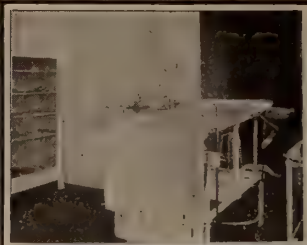
*Special consideration is given  
to Quality of Service*

Rates \$22.00 to \$35.00 per week

H. V. PETTIT, Supt.

OTTAWA

ILLINOIS



## Chicago Fresh Air Hospital

(FOR TUBERCULOSIS)

*At Rogers Park, Chicago, Illinois*

Patients received in *all* stages of Pulmonary Consumption.

Private Rooms and Board, \$25.00 per week.

Open Porch and two-bed Rooms, with Board, \$14.00.

**Tuberculin Treatment  
Artificial Pneumo-Thorax**

**DR. ETHAN A. GRAY,**

*Medical Superintendent.*

## THE POTTENGER SANATORIUM

MONROVIA, CALIFORNIA

**FOR DISEASES OF THE LUNGS AND THROAT**



A thoroughly equipped institution for the scientific treatment of tuberculosis. High class accommodations. Ideal all-year-round climate. Surrounded by orange groves and beautiful mountain scenery, 45 minutes from Los Angeles.

F. M. POTTENGER, A.M., M.D. LL.D.,  
Medical Director.

J. E. POTTENGER, A.B., M.D., Assistant  
Medical Director and Chief of Laboratory.

GEORGE H. EVANS, M.D. San Francisco,  
Medical Consultant.

**For Particulars, Address THE POTTENGER SANATORIUM, Monrovia, California**  
LOS ANGELES OFFICE, 1100-1101 TITLE INSURANCE BUILDING, FIFTH AND SPRING STREETS



# EDWARD SANATORIUM

**For the Treatment of Incipient Pulmonary Tuberculosis  
NAPERVILLE, ILLINOIS**



Established 1907. Attractive surroundings. Large grounds. Open-air sleeping cottages and Infirmary with all appointments necessary for the comfort of the patients.

Modern hygienic-dietetic method of treatment. Medical and laboratory facilities. Resident physicians and trained nurses.

**Tuberculin Treatment and Artificial Pneumothorax in suitable cases**

*For detailed information, rates and rules of admission, apply to*

**CHICAGO TUBERCULOSIS INSTITUTE, 8 South Dearborn Street, Room 1212, CHICAGO, ILL.**



On Main Line Chicago, Milwaukee & St. Paul Railway  
30 Miles West of Milwaukee

# Oconomowoc Health Resort

OCONOMOWOC, WISCONSIN

**For Nervous and Mild Mental Diseases**

**Building New, Most Approved Fireproof Construction**

**ARTHUR W. ROGERS, M.D., Resident Physician in Charge**  
**LONG DISTANCE TELEPHONE**

Build and equipped to supply the demand of the neurasthenic, borderline and undisturbed mental case for a high class home free from contact with the palpable insane, and devoid of the institutional atmosphere. Forty-one acres of natural park in the heart of the famous Wisconsin Lake Resort Region. Rural environment, yet readily accessible. The new building has been designed to encompass every requirement of modern sanitarium construction, the comfort and welfare of the patient having been provided for in every respect. The bath department is unusually complete and up-to-date. Number of patients limited, assuring the personal attention of the resident physician in charge.

**Trains meet at Oconomowoc on request.**

# The Norbury Sanatorium

JACKSONVILLE -- ILLINOIS

*Established by Dr. Frank P. Norbury, 1901*

**Incorporated and Licensed**

**"Maplewood" — "Maplecrest"**

**Capacity Forty Beds**

**PRIVATE RESIDENTIAL HOMES** for the treatment of Nervous and Mental Disorders. Especial attention given to the treatment, by approved modern methods, of the Psychoneuroses, Exhaustion states and selected Psychoses and addiction cases.

**DR. FRANK P. NORBURY,**  
Medical Director. (Late  
Alienist, State Board of Ad-  
ministration. Formerly  
Supt. Kankakee State Hos-  
pital.)

**DR. ALBERT H. DOLLEAR**  
Superintendent (Late  
Clinical Asst., State Psycho-  
pathic Institute, Kankakee,  
Formerly Asst Supt., Water  
town State Hospital.)

**Address all communications, THE NORBURY SANATORIUM, 806 South Daimond Street, JACKSONVILLE, ILLINOIS**  
Springfield Office, DR. FRANK P. NORBURY, 407 South Seventh Street, by appointment

# Kenilworth Sanitarium

(Established 1905)

## KENILWORTH, ILLINOIS

(C. & N.-W. Railway. Six miles north of Chicago)



All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois

Built and equipped for the treatment of nervous and mental diseases. Approved diagnostic and therapeutic methods. An adequate night nursing service maintained. Sound proof rooms with forced ventilation. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.

### Resident Medical Staff

Margaret S. Grant, M. D., Sherman Brown, M. D.,  
Sanger Brown, M. D.,  
Chicago Office: 59 E. Madison Street,  
Telephone: Randolph 5794 Hours: 11 to 1, by appointment only



Established 1867

# BELLEVUE SANITARIUM

BATAVIA, ILLINOIS  
near CHICAGO

*For Nervous and Mental Diseases  
of Women Only*

Restful, homelike and accessible. Treatment modern,  
scientific and ethical.

TERMS MODERATE.

WRITE FOR BOOKLET



# The Hygeia Hospital

Formerly

The Hygeia Sanitarium

Is the only institution in the Middle West

**exclusively treating Drug and Alcohol Addiction**  
by the method given to the medical profession through the Journal A. M. A., June, 1913.

Patients freed from their habit and craving without suffering or publicity. By means of clinical and laboratory examinations, the treatment is adapted to the condition of the individual.

A fixed charge is made, covering all ordinary expenses.

Reprints and other information sent on request.

Wm. K. McLaughlin, M. D.  
Med. Supt.

2715 Michigan Boulevard  
CHICAGO, ILL.



BUILDING ABSOLUTELY FIRE-PROOF

# Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF

**NERVOUS DISEASES**

BYRON M. CAPLES, M.D., Superintendent

Waukesha

::

Wisconsin



# NEURONHURST

Dr. W. B. Fletcher's Sanatorium



**For Treatment of Mental and Nervous Diseases, Including Legally Committed and Voluntary Cases**  
Well equipped with all facilities for the care and treatment of all forms of mental and nervous diseases, inebriety, drug addiction and those requiring recuperation and rest. Gynecological department is in charge of skilled women physicians. All approved forms of Hydrotherapy, Balneotherapy, Massage, Swedish Movements, etc. All forms of Electrical Treatments. Phototherapy, High Frequency and X-Ray work. A strictly ethical institution. Correspondence with physicians invited. For particulars and terms, address:  
**DR. MARY A. SPINK, Superintendent.** Long Distance Telephones **1140 E. Market St., INDIANAPOLIS**

## DR. SIDNEY D. WILGUS

Retiring Superintendent of Kankakee State Hospital, also former Superintendent of Elgin State Hospital.

### Begs to Announce

that he has purchased a Sanitarium at Rockford, Ill. (The Ransom)

and is prepared to give personal care and attention to mental and nervous cases and drug addictions. Modern features having been added, the equipment is qualified to give up-to-date treatment. Also tennis, croquet, boating, and other out-door exercises are prescribed. A nine-hole golf course is near by. Correspondence solicited, or, to save time, telephone: Long Distance, Rockford 3767, and reverse the charges. On request patients are met at any train with an automobile.

Mail address, **DR. SIDNEY D. WILGUS, Box 304, Rockford, Ill.**

Chicago Office. Thursday Mornings until 12 at Suite 1603, 25 E. Washington St.

And by appointment



ENTRANCE

WEST HOUSE

OFFICE AND BATH HOUSE

PSYCHOPATHIC HOSPITAL

GYMNASIUM

Established  
in 1884

## THE MILWAUKEE SANITARIUM

For Mental and Nervous Diseases

Wauwatosa,  
Wis.

Located at Wauwatosa (a suburb of Milwaukee) on C. M. & St. P. Ry., 2 1/4 hours from Chicago, 15 minutes from Milwaukee, 5 minutes from all cars. Two lines street cars. Complete facilities and equipment as heretofore announced. Psychopathic Hospital: Continuous baths, fireproof building, separate grounds. West House: Rooms en suite with private baths. Gymnasium and Recreation Building: Physical culture, "Zander" machines, shower baths. Modern Bath House: Hydrotherapy, Electrotherapy, Mechanotherapy. 30 acres beautiful hill, forest and lawn. Five houses. Individual treatment. Descriptive booklet will be sent upon application.

**RICHARD DEWEY, A. M., M. D.**

**EUGENE CHANEY, A. M., M. D.**

**WILLIAM T. KRADWELL, M. D.**

CHICAGO OFFICE: Marshall Field Annex, 25 E. Washington Street, Room 1823, Wednesdays 1 to 3 P. M. (except in July and August) Tel. Central 1162.  
MILWAUKEE OFFICE: Goldsmith Building, Room 504. Consultation by appointment. Tel. Main 81.  
TELEPHONE SANITARIUM OFFICE: Milwaukee—Wauwatosa 16.



## The Cincinnati Sanitarium For Mental and Nervous Diseases

Incorporated 1873

A strictly modern hospital fully equipped for the scientific treatment of nervous and mental affections. Situation retired and accessible. For details write for descriptive pamphlet.

F. W. Langdon, M.D., Medical Director

B. A. Williams, M. D., Resident Physician

Emerson A. North, M. D., Resident Physician

H. P. COLLINS, Business Manager, Box No. 4, College Hill, Cincinnati, Ohio



ABSOLUTELY FIREPROOF BUILDING

LESS THAN THREE HOURS FROM CHICAGO

## Mud Baths

For the treatment of RHEUMATISM, Nervousness, Kidney, Liver and Skin Diseases, and all ailments requiring elimination and relaxation. Location beautiful; climate healthful; 80 acres of private grounds.

DR. AUGUSTUS S. GILLES, Medical Director

*Correspondence with physicians solicited*

For rates, literature and reservations, address

**Waukesha Moor (Mud) Bath Co.**

WAUKESHA, WISCONSIN

## Burr Oak Sanatorium For the Treatment of Tuberculosis WHEATON, ILL.

A small home-like Sanatorium devoid of the institutional atmosphere. Beautiful grounds and surroundings; conscientious, individual attention. Fresh milk and eggs from the farm. Excellent table. Rates \$9.00 per week.

D. C. MOULDING, M.D., Physician-in-Charge

Chicago Office, Room 340, 440 So. Dearborn St.

Hours: 12 to 2 P. M., Mondays and Wednesdays

## The Peoria Mud Baths

We insist that your patients can eliminate as freely and as effectively in Illinois as in any other State in the Union.

Strict ethical relations. Thoroughly equipped. Have had thousands of patients.

DR. T. W. GILLESPIE, Medical Supt.

**SULPHUR SPRINGS SANITARIUM**  
215-217 N. Adams St. Peoria, Illinois





## DR. WEIRICK'S SANITARIUM

FORMERLY DR. BROUGHTON'S SANITARIUM  
ESTABLISHED IN 1901

**For Opium, Morphine  
Cocaine and Other Drug  
Addictions, Including  
Alcohol and Special  
Nervous Cases**

Methods easy, regular, humane.  
Good heat, light, water, help, board,  
etc. Number limited to 44. A well  
kept home. Nervous-Mental De-  
partment in charge of Dr. W. L.  
Ransom. Address

**DR. G. A. WEIRICK**  
SUPERINTENDENT

**2007 South Main Street**

Phone 536  
**Rockford - - - Illinois**

**PETTEY & WALLACE**  
958 S. Fifth Street  
MEMPHIS, TENN. **SANITARIUM**



**FOR THE TREATMENT  
OF**

**Drug Addiction, Alcoholism,  
Mental and Nervous Diseases**

A quiet, home-like, private, high-  
class institution. Licensed. Strictly  
ethical. Complete equipment. Best  
accommodations.

Resident physician and trained  
nurses.

Drug patients treated by Dr.  
Petthey's original method.

Detached building for mental  
patients.

## The Peoria Sanatorium

A private Sanatorium for the treatment of Nervous and Mental Diseases,  
by modern methods. Flowing Sulphur Spring. Licensed by the State.

**DRUG AND LIQUOR HABITS TREATED**  
WRITE FOR BOOKLET

**Director, DR. GEO. W. MICHELL**

**PHONE MAIN 225.**

**Address, 106 N. Glen Oak, PEORIA, ILL.**



## The Riverside Sanitarium

FOR NERVOUS and MILD MENTAL DISEASES  
SEPARATE DEPARTMENT FOR NON-MENTAL CASES  
SELECTED ALCOHOLIC CASES ACCEPTED

Located in the beautiful suburb of East Milwaukee

Beautiful apartments, single or en suite—private bath rooms—amusement hall—billiard room—gymnasium—sun parlors. Full scientific equipment. Rates upon request.

Address. F. C. STUDLEY, M. D., Milwaukee

## AREND-ADAMICK DOUBLE KUMYSS

**AN IDEAL FOOD** for all conditions of enfeebled digestive power from any cause, malnutrition in infants or the aged—a sustaining diet during the course of acute infectious diseases and gastro-intestinal disorders  
**EASILY ASSIMILATED** and contains the elements essential for the nourishment of the organism.  
**A VALUABLE NUTRIENT** in Typhoid, Enteritis, Marasmus, Acute fevers, Gastric Ulcer, Anemia, Vomiting of Pregnancy, Asthenic fevers and during Convalescence.

Its taste is pleasantly acidulous—its enticing flavor is unusually acceptable to the capricious appetite of the sick—it may be used for days as an exclusive diet.

Booklet giving instructions and interesting clinical report, also price list, free on request.

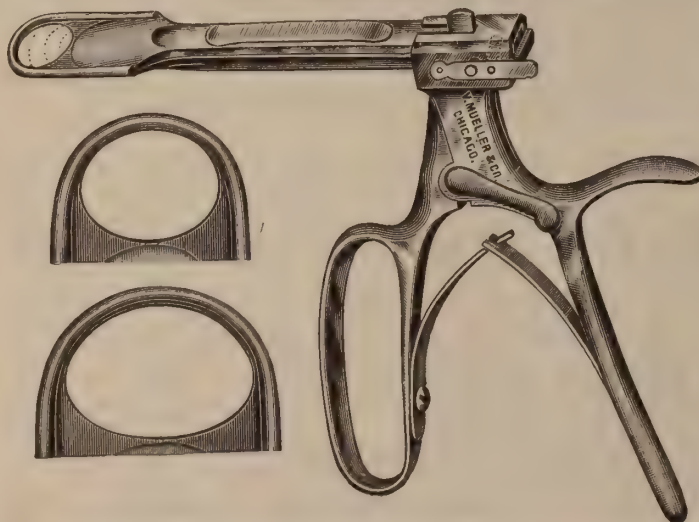
A. AREND DRUG COMPANY

Manufacturing Chemists

182 West Madison Street, Chicago

## DR. A. M. CORWIN'S IMPROVED Sluder-Ballenger Guillotine For Tonsillectomy

*Learn How to Use It—Write for Information*



**Simple—Powerful—Durable  
Quickly Adjustable—Reliable**

*This is the only  
Official Pattern, Avoid Crude  
Cheap Imitations*

An improperly formed instrument will not perform the Sluder operation WELL as it should be done in every case.

**V. MUELLER & CO.**  
Makers of Surgeons' Instruments  
1771-81 Ogden St., CHICAGO



# Chicago College of Medicine and Surgery

**MEDICAL  
DEPARTMENT OF  
VALPARAISO  
UNIVERSITY**



**702-706  
SO. LINCOLN ST.  
CHICAGO, ILL.**

**Main College Building and Willard Hospital**

This College has an enrollment of 500 students. The Laboratory and Hospital facilities are abundant.

The Faculty consists of men who have distinguished themselves as medical educators.

The College is not burdened with debts and is therefore able to expend all of its income upon the courses of instruction.

The Calendar year is divided into three semesters of four months each. The Fall semester begins on the last Tuesday in September. The Winter semester begins on the first Monday in February. The Summer semester begins on the first Monday in May.

*For catalogue or further information address*

**J. NEWTON ROE, Secretary**

**706 S. Lincoln St., Chicago, Ill.**

## Chicago Eye, Ear, Nose and Throat College

**A Post-Graduate School for Prac-  
titioners of Medicine**

**235 W. Washington Street  
Chicago, Ill.**

**Catalogue on Application**

Buy from our advertisers.  
If they don't give as good  
or better value than others,  
kick to us—

***We'll do the rest***

## Chicago Maternity Hospital and Training School for Nurses

**ACCOMMODATES 25 PATIENTS  
RATES: \$10.00 to \$25.00 PER WEEK**

Well infants cared for in nursery for \$5.00 per week.  
Training School for Obstetrical and Infants' nurses.

**Address**

**EFFA V. DAVIS, M.D., 2314 N. Clark St., Chicago**

## "BEVERLY FARM"

**Home and School for Nervous and Backward Children**

5 buildings, schools and gymnasium, 176 acres of land, 40 acres of timber, containing beautiful Camp Belle log cabin for recreation; separate buildings for boys and also children under 10 years of age. Thirty-six years experience. Consultations at home if desired. Publicity avoided. Address all communications to

**W. H. C. SMITH, M. D., Superintendent  
GODFREY, MADISON CO., ILLINOIS**

*"Beverly Farm" was awarded Grand Prize by Committee of Awards of the Louisiana Purchase Exposition*



## “Yes, the Doctor Will Be There in a Few Minutes—He Uses **Polarine**, the Perfect Lubricant”

FRICTION REDUCING MOTOR OIL

Polarine flows at zero and maintains the correct lubricating body at any motor speed or temperature.

Polarine covers even the remotest friction surface in your motor—minimizes friction and repairs, and increases the amount of power.

Polarine is produced scientifically and is of proven efficiency, as may be attested by approximately 450,000 motorists in the Middle West alone.

Order a half barrel today—it costs less per gallon that way than in smaller quantities.

**Standard Oil Co.**

*(Indiana)*

**Chicago, U. S. A.**

**Use Red Crown Gasoline and get more power, more speed, more miles per gallon.**





# BUYER'S INDEX

Abbott Laboratories.....	7
Accuracy Laboratories .....	11
A. Arend Drug Co.....	24
Bayer Company.....	8
Bellevue Sanitarium .....	20
Bevely Farm School.....	25
Burr Oak Sanatorium.....	22
Chicago College of Medicine and Surgery.....	25
Chicago Eye, Nose & Throat College.....	25
Chicago Fresh Air Hospital.....	18
Chicago Laboratory .....	13
Chicago Laboratory of Surgical Technique.....	12
Chicago Maternity Hospital .....	25
Chicago Med. Soc. Milk Com. ....	32
Chicago Pasteur Institute.....	14
Cincinnati Sanitarium .....	22
College of Medicine, Univ. of Ill.....	25
Cocroft, Susanna.....	12
Columbus Medical Laboratory.....	12
Crittenton, Chas. N. Co.....	30
Edward Sanatorium .....	19
Fletcher's Sanatorium .....	21
Gradwohl Biological Laboratories.....	12
Harvey, G. F.....	17
Horlick's Malted Milk Co.....	2
Hygeia Hospital .....	20
Kenilworth Sanitarium .....	20
Laboratory of Hygiene, Pathology & Bacteriology.....	14
Lederle Antitoxin Laboratory.....	31
Medical Protective Co.....	11
Mead, Johnson & Co.....	4
Mellin's Food Co.....	6

Milwaukee Sanitarium .....	21
Mueller & Co., V.....	24
Mulford, H. K., & Co.....	10
Norbury Sanitarium .....	19
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Parke, Davis & Co.....	16
Pennoyer Sanitarium .....	6
Peoria Mud Baths.....	22
Peoria Sanatorium .....	23
Petty & Wallace's Sanitarium.....	23
Phillips Co., Chas. H.....	28
Pitman-Moore Co.....	4
Pottenger Sanatorium .....	18
Pure Gluten Food Co.....	5
Quaker Oats Co.....	5, 29
Ransom Sanitarium .....	21
Riverside Sanitarium.....	24
Saunders Co., W. B.....	front cover
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Sherman, G. H., M. D.....	5
Standard Oil Co.....	3, 26
Storm, Katherine L., M. D.....	11
Sulphur Springs Sanitarium.....	23
Swan-Myers Co.....	14
Tilden Co., The.....	6
Waukesha Moor (Mud) Bath Co.....	22
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium .....	28

# INDEX TO ADVERTISERS

## ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D.....	11
--------------------------------	----

## AUTOMOBILES, ETC.

Goodyear Tire & Rubber Co.....	25
Standard Oil Co.....	3, 30

## FOOD

Arend-Adamick Koumyss.....	24
Certified Milk .....	4
Horlick's Malted Milk Co.....	2
Mead, Johnson & Co.....	6
Mellin's Food Co.....	6
Pure Gluten Food Co.....	5, 29
Quaker Oats .....	5, 29

## HOSPITAL

Chicago Fresh Air Hospital.....	18
Chicago Maternity Hospital.....	25
Hygeia Hospital .....	20

## INVESTMENTS AND INSURANCE

Medical Protective Co.....	11
----------------------------	----

## LABORATORY

Abbott Laboratories .....	7
Accuracy Laboratories .....	11
Chicago Laboratory .....	13
Chicago Laboratory of Surgical Technique.....	12
Columbus Medical Laboratory.....	12
Gradwohl Biological Laboratories.....	12
Laboratory of Hygiene, Pathology & Bacteriology.....	14
Swan-Myers Co.....	14

## MEDICAL BOOK PUBLISHERS

Saunders Co., W. B.....	front cover
-------------------------	-------------

## MEDICAL SCHOOLS

Chicago College of Medicine and Surgery.....	25
Chicago Eye, Ear, Nose & Throat College.....	25
College of Medicine, Univ. of Ill.....	25

## MUD BATHS

Peoria Mud Baths.....	22
Waukesha Moor (Mud) Bath Co.....	22

## PHARMACEUTICALS

Abbott Laboratories .....	7
Bayer Company.....	8
Crittenton, Chas. N. Co.....	30
Harvey, G. F.....	17
Hygeia Sanitarium .....	17
Kenilworth Sanitarium .....	20
Lederle Antitoxin Laboratory.....	31
Mead, Johnson & Co.....	4
Mulford, H. K., & Co.....	10
Parke, Davis & Co.....	16
Phillips Co., Chas. H.....	28
Pitman-Moore Co.....	4
Sherman's Bacterins .....	5
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Swan-Myers Co.....	14
Tilden Co., The.....	6

## SANATORIA & SANITARIA

Bellevue Sanitarium .....	20
Burr Oak Sanatorium.....	22
Cincinnati Sanitarium.....	22
Edward Sanatorium.....	19
Fletcher's Sanatorium.....	21
Norbury Sanitarium.....	19
Milwaukee Sanitarium.....	21
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Pennoyer Sanitarium.....	6
Peoria Sanitarium.....	23
Petty & Wallace's Sanitarium.....	23
Pottenger Sanatorium.....	18
Ransom Sanitarium.....	21
Riverside Sanitarium.....	24
Sulphur Springs Sanitarium.....	23
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium.....	23

## SURGICAL INSTRUMENTS

Mueller & Co., V.....	24
-----------------------	----

IN PLACE OF OTHER ALKALIES USE

# Phillips' Milk of Magnesia

"THE PERFECT ANTACID"

For Correcting Hyperacid Conditions—Local or Systemic. Vehicle for  
Salicylates, Iodides, Balsams, Etc.

Of Advantage in Neutralizing the Acid of Cows' Milk for Infant and  
Invalid feeding.

## Phillips' Phospho-Muriate of Quinine Compound NON-ALCOHOLIC TONIC AND RECONSTRUCTIVE

With Marked Beneficial Action Upon the Nervous System. To be relied  
Upon Where a Deficiency of the Phosphates is Evident.

THE CHAS. H. PHILLIPS CHEMICAL CO.  
NEW YORK LONDON

### CONTENTS—Continued

#### ORIGINAL ARTICLES—Continued.

How to Promote the Interest and Attendance in our County Societies. Andy Hall, M. D., Mt. Vernon, Ill.	354
Full Term Ectopic Gestation with Report of Case. G. W. Green, M. D., and J. J. Moore, M. D., Chicago.....	356
The Treatment of Constipation. Philip Lewin, M. D., Chicago. ....	360
The Microscopic Examination of Feces and Its Clinical Significance. S. M. Wylie, M. D., Paxton, Ill.....	361

#### EDITORIAL.

Social Insurance.....	364
New Medical Society.....	365
High Cost of Publishing.....	365
About Medical Journals.....	365
Modern Humanitarianism.....	366
State Board of Examination.....	366
Medical Corps of the Navy.....	366

#### PUBLIC HEALTH.

The New Public Health in Illinois.....	367
Elimination of Other practitioners.....	367
Raising Standards of Medical Education.....	368
Important Decision Rests on Action of Physicians.....	368
Poliomyelitis in Illinois.....	369
Tuberculosis Notes.....	369

#### AUTO SPARKS AND KICKS

Lubrication .....	370
-------------------	-----

#### SOCIETY PROCEEDINGS.

Adams County.....	371
Cook County:	
Chicago Medical Society.....	372
Englewood Branch.....	372
Chicago Laryngological Society.....	372
Fulton County.....	378
Hancock County.....	379
Jo. Daniels County.....	379
Macoupin County.....	379
Madison County.....	379
Morgan County.....	380
Ogle County.....	380
Pike County.....	380
Winnebago County .....	381
Personals .....	381
News Items .....	382
Marriages .....	383
Deaths .....	383
Book Notices.....	384
Offices of State and County Societies.....	Adv. page 15
Index to Advertisements.....	Adv. page 27
Buyers' Index.....	Adv. page 27



**COUNTY SOCIETIES—Continued.**

**Pope County**  
J. A. Fisher, Pres.....Brownsville  
L. S. Barger, Secy.....Golconda

**Pulaski County**  
J. F. Hagan, Pres.....Mound City  
W. R. Wesenberg, Secy.....Mound City

**Randolph County**  
Wm. R. McKenzie, Pres.....Chester  
John P. Grimes, Secy.-Treas.....Menard

**Richland County**  
A. T. Telford, Pres.....Olney  
E. H. Horner, Secy.....Olney

**Rock Island County**  
Geo. A. Wiggins, Secy.....Milan  
A. E. Williams, Secy.....Rock Island

**St. Clair County**  
B. H. Portuondo, Pres.....Belleville  
A. E. Hansing, Secy.....Belleville

**Saline County**  
M. D. Impson, Pres.....Brushy  
E. W. Cummins, Secy.....Harrisburg

**Sangamon County**  
Arthur E. Prince, Pres.....Springfield  
H. B. Henkel, Secy.....Springfield

**Schuyler County**  
A. W. Ball, Pres.....Rushville  
J. C. Steiner, Secy.....Rushville

**Scott County**  
J. H. Eckman, Pres.....Winchester  
H. H. Fletcher, Secy.....Winchester

**Shelby County**  
F. A. Martin, Pres.....Tower Hill  
Frank P. Auld, Secy.....Shelbyville

**Stark County**  
James R. Holgate, Pres.....Wyoming  
Clyde Berfield, Secy.....Toulon

**Stephenson County**  
W. B. Peck, Pres.....Freeport  
N. C. Phillips, Secy.....Freeport

**Tazewell County**  
H. L. Yoder.....Morton  
F. C. Gale, Secy.....Pekin

**Union County**  
G. W. Marrow, Pres.....Anna  
E. V. Hale, Secy.....Anna

**Vermillion County**  
A. E. Dale, Pres.....Danville  
O. H. Crist, Secy.....Danville

**Wabash County**  
P. G. Manley, Pres.....Mt. Carmel  
A. A. Aukerbrandt, Secy.....Mt. Carmel

**Warren County**  
Philo B. Conant, Pres.....Roseville  
H. M. Camp, Secy.....Monmouth

**Washington County**  
D. S. Neer, Pres.....Beaucoup  
P. B. Rabenneck, Secy.....Nashville

**Wayne County**  
T. J. Hilliard, Pres.....Fairfield  
Ostella F. Blakely, Secy.....Fairfield

**White County**  
C. B. Staley, Pres.....Enfield  
John Niess, Secy.....Carmi

**Whiteside County**  
W. H. Durkee, Pres.....Fulton  
H. N. Schmaling, Secy.....Fulton

**Will County**  
A. L. Schreffler, Pres.....Joliet  
Marion K. Bowles, Secy.....Joliet

**Williamson County**  
J. G. Parmley, Pres.....Marion  
H. A. Felts, Secy.....Marion

**Winnebago County**  
D. B. Penniman, Pres.....Argyle  
C. M. Ranseen, Secy.-Treas.....Rockford

**Woodford County**  
F. W. Nickel, Pres.....Minonk  
H. A. Millard, Secy.....Minonk



Queen Grains

Starved Grains

## That Extra Flavor

In Quaker Oats is nothing artificial. It comes from flaking just the big, plump grains.

A bushel of choice oats yields but ten pounds of grains that are fit for Quaker.

Puny, starved oats are insipid. They are good for horses but not for humans. So we sift them out.

Thus we get oat flakes which are large, white and luscious. And a flavor that delights.

# Quaker Oats

## Queen Grains Only

In every country Quaker Oats has become the leading brand. That is true even in the very homes of Scotch and Irish oats. It is true in a hundred nations. And all because of this flavor.

**Regular Package 10c**  
*Except in Far West and South*

**The Quaker Oats Company**  
Chicago

(1385)

# Hydroleine ←

**An ethical emulsion of  
cod-liver oil without  
medicinal admixture.**

The manner in which the purest and freshest cod-liver oil is emulsified in Hydroleine, makes it easily digestible. Furthermore, Hydroleine does not offend the taste. Its nutty and distinctive flavor is liked by the most delicate palate, and children take it willingly.

In practice it is markedly utilizable, and is reliably stable. It is effective as a food-fat and possesses superior characteristics.

**In Long-continued Professional  
Use Hydroleine Has Proved  
Its Dependability**

**THE CHARLES N. CRITTENTON CO.**  
115 Fulton Street, New York

**Sold by druggists**

Sample sent to physicians on request.

## WANTED, FOR SALE, AND RENT DEPARTMENT

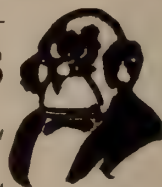
Advertisements under this heading cost one dollar for four lines or less, and 25 cents for each additional line, each insertion. Payable in advance. Line holds eight ordinary words.

30 "NEVERSSLIP" LIGATURES IN JAR  
A profitable "Side Line" for "TRAVELERS."

"Repeat Orders" Regular. 50c P. Post.  
"NSS" SALES CO., WENONA, ILL.

**I AM SORRY I  
did NOT advertise**

—in the—  
**ILLINOIS  
MEDICAL  
JOURNAL**



## Doctor—

*Read carefully and  
learn what you  
will receive, if  
you join the  
Illinois  
State Medical  
Society*

**Y**OU get medico-legal protection, membership in your County Medical and Illinois State Medical Societies, and the Illinois Medical Journal. Membership in these makes you eligible to membership in the American Medical Association.

1. **MEMBERSHIP IN THE ILLINOIS STATE MEDICAL SOCIETY.** All members of a County Medical Society are *ipso facto* members of the State Society and receive all publications of the State Society without additional fees, dues or subscriptions. The Illinois State Medical Society is one of the greatest local medical organizations in the world. Affiliation and association with this large and representative body of men is of great value and importance to every physician.

2. **MEDICAL DEFENSE.** Out of your annual dues the trustees of your County Medical Society are required to turn \$1.00 over to the "medical defense committee" for the protection and defense of members of the society against whom suits for malpractice or damages may be brought. For years the Illinois State Medical Society has been meeting all expenses of such litigation—court costs, attorney's fees, costs of appeals, witness fees, the cost of record—no limitation being placed on the expense of an individual case.

This means protection against suits for damages for alleged malpractice, as well as attempted blackmail. This one feature alone is worth many times the cost of membership. Private defense companies are charging \$15.00 per year and upwards for the defense feature alone.

Come to the next meeting of the local society of the District in which you live and meet the other physicians of your neighborhood. Fill out the application for advertising page 4 and send it, together with membership fee, to the Secretary of your County Society, and thus secure the benefits mentioned.

### QUALIFICATIONS FOR MEMBERSHIP

Every registered physician residing in Illinois, as may be authorized by the State Society, who is of good moral and professional standing, and who does not claim to practice any exclusive system of medicine, shall be eligible for membership.



# Hay Fever

## Convincing Clinical Data Prove Value of Pollen Vaccine

**D**URING 1915, LEDERLE'S *Pollen Vaccine* was used by over 600 physicians for the prophylaxis and treatment of Hay Fever. The clinical data submitted to us show 83 *per cent favorable results* from Pollen Vaccine as a prophylactic against Hay Fever, and 89 *per cent favorable results* in the treatment of Hay Fever. Asthmatic symptoms were relieved in 84.2 per cent of the cases.

LEDERLE'S is a combined *Pollen Vaccine* containing pollen from all the common grasses, weeds and flowering plants which are known to be important in causing hay-fever in the spring and fall.

Lederle's POLLEN VACCINE is supplied in the following packages :

1. Complete vaccine treatment, containing doses 1 to 15, inclusive. Price..... **\$15.00**
2. Series A, containing doses 1 to 5 only. Price..... **5.00**
3. Series B, containing doses 6 to 10 only. Price..... **5.00**
4. Series C, containing doses 11 to 15 only. Price..... **5.00**

Booklet sent on request.

**Lederle Antitoxin Laboratories**

**Schieffelin & Co., Distributors**

**New York**

# *The Radium Institute*

1604 Mallers Bldg.

CHICAGO

59 East Madison St.  
Corner Wabash Ave.

Treatment of Malignant and Benign  
Growths with Radium.

Post-Operative Prophylactic Radiations.

Applicators for all purposes, including  
many of Special Designs.

DR. FRANK E. SIMPSON  
DIRECTOR



Telephone:

Randolph

5 7 9 4

COUNCIL:

DR. F. A. BESLEY

DR. E. C. DUDLEY

DR. A. R. EDWARDS

DR. O. T. FREER

DR. M. HERZOG

DR. L. E. SCHMIDT

DR. G. F. SUKER

## *READER!*

are you buying your supplies from our ad-  
vertisers?

Our advertising pages are your property as a  
member of the Illinois State Medical Society.

Advertisers will pay for space in proportion as  
you buy from them, and thus make the space  
valuable to them.

Order now, and write that you saw the "ad"  
in the JOURNAL.





# Illinois Medical Journal

OFFICE OF PUBLICATION 3338 OGDEN AVENUE, CHICAGO

Vol. XXX, No. 6

CHICAGO, DECEMBER, 1916

\$2.00 a Year

## CONTENTS

ORIGINAL ARTICLES	PAGE		PAGE
The Prevention of Disability Following Fracture of the Os Calcis. C. R. G. Forrester, M. D., Chicago.....	385	Symptoms of Seminal Vesiculitis. Indications for Operative Interference, with Case Reports and Results. Edward W. White, M. D., Chicago .....	400
A Clinical Study of Lobar Pneumonia, with Special Reference to Prognosis. Frederick Tice, M. D., and R. F. Herndon, M. D., Chicago .....	388	A Restricted Milk Diet for the Removal of Dropsies. N. S. Davis, M. D., Chicago .....	404
Community Nursing. H. K. Scatliff, M. D., Elgin, Ill. ....	394	Nephritic Crisis. L. M. Bowes, M. D., Chicago .....	408
Carriers of the Gonococcus. Eugene Holt Eastman, M. D., Chicago .....	396	A Case of Bichloride of Mercury Poisoning Successfully Treated. Meyer S. Pedott, M. D., Chicago .....	410
Surgical Treatment of Acute Epididymitis. Charles M. McKenna, M. D. ....	398	Infantile Spinal Paralysis. L. H. Johnson, M. D., Casey, Ill. ....	411

Entered as Second-Class Matter August 28, 1913, at the Post Office, Chicago, Illinois, under the Act of March 3, 1879.

## DeLee's Obstetrics

NEW (2d) EDITION

This new (2d) edition contains new chapters on the Abderhalden pregnancy test, "twilight sleep," dry labor, labor in old primiparae, blood-pressure in obstetric practice, and extraperitoneal cesarean section. In addition to the new text matter 25 original illustrations have been added, the work now containing 938 illustrations, 175 of them in colors—really an obstetric atlas.

The section on *Physiology of Pregnancy* covers over 100 pages and contains 136 illustrations, 29 in colors. The chapter on the *Breast* takes up every disease a sequel of childbirth. *Massage* is very fully treated, showing you the exact directions for the strokings. The *detailed legends* under the operative pictures enable you to follow the various steps without referring to the text. Quick reference!

**Professor W. Stoeckel, Kiel, Germany**

"The book deserves the greatest recognition. The text and the 938 very beautiful illustrations prove that it is written by an obstetrician of ripe experience and exceptional teaching ability."

Large octavo of 1087 pages, with 938 illustrations, 175 in colors. By JOSEPH B. DELEE, M. D., Professor of Obstetrics in the Northwestern University Medical School, Chicago.

Cloth, \$8.00 net; Half Morocco, \$9.50 net

**W. B. SAUNDERS COMPANY, West Washington Square, Philadelphia**

This Issue, 6750 Copies



## THIS IS THE PACKAGE!

(others are imitations)

*And is your guarantee and protection against the concerns, who led by the success of the Horlick's Malted Milk Company, are manufacturing imitation malted milks which cost the consumer as much as "Horlick's."*

Always specify

# Horlick's, the Original

And avoid substitutes

## Complete exhaustion

is just as undesirable in humanity as it is absolutely essential in pharmacy. In your patient it means lost vitality; in our products it means maximum therapeutic value. You try just as hard to check the one as we strive to increase the other—and we are both rightly judged by our “end-product.”

*Complete exhaustion of everything medicinal in botanical drugs of prime quality is the rock-bottom foundation of our “Quality Products.”*

### Sharp & Dohme

Purveyors to your profession  
since 1860



# Stanolind

Trade Mark Reg. U. S. Pat. Off.

## Liquid Paraffin

(Medium Heavy)

Tasteless — Odorless — Colorless

### Valuable in Diabetes and Chronic Gastritis

**I**N cases of diabetes, the systematic use of Stanolind Liquid Paraffin, acting as a gentle laxative, is an effective means of combating the intestinal putrefaction and auto-intoxication which are constant accompaniments of diabetes in its grave forms, and may be one of the most potent factors in its causation.

Stanolind Liquid Paraffin has no effect upon gastric secretion; does not inhibit the production of hydrochloric acid by the stomach. Hence it is indicated where a condition of constipation co-exists with chronic gastritis.

Stanolind Liquid Paraffin is not acted on by any of the digestive juices and is not absorbed. It acts by adding to the bulk of food in the large intestine; by lubricating the food canal, and by hindering the excessive absorption of water.

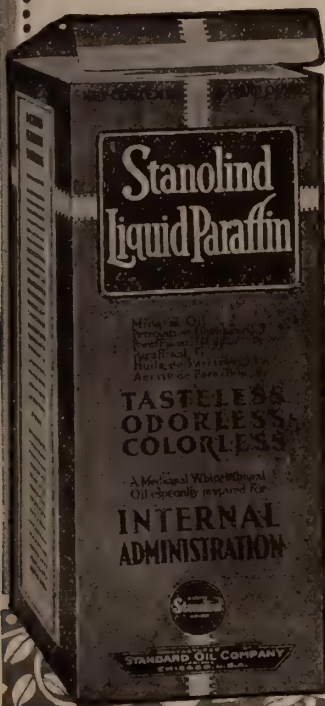
A trial quantity with informative booklet will be sent on request.

**Standard Oil Company**  
(Indiana)

72 W. Adams Street

Chicago, U. S. A.

69



## Sugar is an Extremely Important Constituent in Infant Feeding BUT

## YOU MUST SELECT THE RIGHT SUGAR

A large part of the troubles of infant feeding has been shown to be due to the ingestion of milk sugar or cane sugar.

## MEAD'S DEXTRI-MALTOSE

from the standpoint of DIGESTIBILITY and ASSIMILABILITY represents the properly balanced carbohydrate. Composition—Maltose 52%, Dextrin 41.7%, Sodium Chloride 2%.

Administration—1½ oz. Dextri-Maltose (2 heaping tablespoonfuls) to any milk and water mixtures suited to age and weight.

Literature and Samples on Request

**Mead Johnson & Co.**

**Evansville, Ind.**

There are many grades of crude drugs  
offered for sale on the drug market

*But—*

There is only one "best"

It takes the best grade of crude drug, the highest grade of workmanship, together with the most accurate and "time-tried" methods to make



**PITMAN-MOORE COMPANY, Chemists**  
INDIANAPOLIS, INDIANA



## Hoyt's Gum Gluten DIABETIC FOODS

Supplies the much needed variety to be used in place of the forbidden wheat products.

You will find from our analyses that you can regulate your patient's diet to your entire satisfaction by prescribing Hoyt's Gum Gluten.

Send for analyses, Starch  
Restricted Diet, etc.

**The Pure Gluten Food Company**  
90 West Broadway NEW YORK CITY

## Sherman's Bacterial Vaccines Preparations with a Record for Reliability

All the vaccines usually employed in the treatment of infectious diseases marketed in specially devised aseptic antiseptic bulk packages, insuring absolute safety in withdrawing contents.

5 c.c. for \$1.00 18 c.c. for \$3.00 Ampules, 6 in box, \$1.50

*Daily Users of Vaccines use Sherman's*

### SHERMAN'S NEW BOOK

*JUST OFF THE PRESS*

*Devoted to the Application of*  
**BACTERIAL VACCINES**

Explaining their therapeutic action—How, When and Where to use them.

More rapid strides have been made and more brilliant results obtained in the Field of Therapeutic Immunization than in any other branch of medicine.

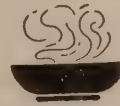
This book contains over 500 pages, is cloth bound and sells for \$2.50.

WRITE FOR LITERATURE

**G. H. SHERMAN, M. D.**

3334 Jefferson Ave. E.

Detroit, Mich.



## Bran Food As You Want It

Doctors told us that they wanted flake bran—the form that's most efficient.

They said we should hide it in a whole-wheat dainty, so people would like and continue it.

And they said they wanted the bran content to be 25 per cent.

We make Pettijohn's on that basis. In whole-wheat flakes—a luscious food—we roll 25 per cent unground bran.

The result is a morning dainty of which folks never tire. A food that folks do not quit. And enough bran in flake form to make it efficient.

The better you know it the more you will advise it.

# Pettijohn's

**Rolled Wheat with Bran Flakes**

This is soft, flavory wheat rolled into luscious flakes, hiding 25 per cent. of unground bran. Can be cooked in 20 minutes. 20c per package.

**Pettijohn's Flour** is another bran product. It is 75 per cent. fine patent flour mixed with bran flakes—25 per cent. To be used like Graham flour in any recipe. 30c per large package.

**The Quaker Oats Company**

Chicago

(1373)

**Antituberculous FORMULA:** **FIROLYPTOL with KREOSOTE** **Antistrumous**  
 Cotton Seed Oil Morson's White Label Kreosote Firwein, Eucalyptol  
*Free Samples to the Profession*  
**THE TILDEN COMPANY**  
 Manufacturing Pharmacists and Chemists  
 NEW LEBANON, N. Y. Since 1848 ST. LOUIS, MO.

**THE Pennoyer**  
 Established 1887  
 Kenosha, Wis., between Chicago and Milwaukee on the North-Western R. R. Fine Health Resort and Sanitarium on Lake Michigan. Beautiful environment—a mile of lake shore. For illustrated prospectus address N. A. Pennoyer, M. D.

**"Sutures fit for Surgery"**  
**DAVIS & GECK, INC.**  
 Brooklyn, N.Y., U.S.A.

**DOCTOR:** It is our purpose to give to you on your orders, the best pharmaceuticals that the highest grade of crude drugs, pure chemicals and skilled workmanship, under experienced supervision, can produce.

When our man calls upon you, give him a few moments of your time. He will tell you more about what we are trying to do.

**G. D. SEARLE & CO.** *Mfrs. of* **Fine Pharmaceuticals and Hypodermic Tablets**  
 215-217-219 W. Ohio St. CHICAGO Telephone North 1704

## INFANT FEEDING

In extreme emaciation, which is a characteristic symptom of conditions commonly known as

### Malnutrition-Marasmus-Atrophy

it is difficult to give fat in sufficient amounts to satisfy the nutritive needs; therefore, it is necessary to meet this emergency by substituting some other energy-giving food element. Carbohydrates in the form of maltose and dextrines in the proportion that is found in

### MELLIN'S FOOD

are especially adapted to the requirements, for such carbohydrates are readily assimilated and at once furnish heat and energy so greatly needed by these poorly nourished infants.

The method of preparing the diet and suggestions for meeting individual conditions sent to physicians upon request.

MELLIN'S FOOD COMPANY,

BOSTON, MASS.





## WILL STOP THAT COLD

### An Emergency Remedy of Proven Value

Increasing thousands of doctors are demonstrating, each year, the value of **CALCIDIN** in the treatment of Coughs, Colds, Croup, Influenza, Grip, Bronchitis, Rhinitis, Laryngitis and all other catarrhal conditions of the respiratory tract.

Inclement weather and artificial heating of houses bring on a train of these and other winter troubles.

Be prepared to meet these emergencies. Provide yourself now with a plentiful supply of **CALCIDIN (Abbott)**. It provides a reliable basic treatment. Calcidin contains 15% available iodine. It should be used wherever iodine is indicated.

Calcidin should also be used in connection with Abbott's Pneumococcus-Combined Bacterin in your pneumonia cases.

#### PRICES:

1-3-grain tablets.....	100,	\$0.23;	500,	\$0.75;	1000,	\$1.35
1-grain tablets.....	100,	.34;	500,	1.30;	1000,	2.45
2 1-2-grain tablets.....	100,	.54;	500,	2.30;	1000,	4.45
5-grain tablets.....	100,	.80;	500,	3.60;	1000,	7.05
Pure powder, in 1-ounce packages, per dozen.....						5.00
In less than half-dozen quantities, per package.....						.50

For Canadian prices, add 25%.

Delivery prepaid for cash with order. Money back if not satisfied.

For dispensing supplies send your orders to the nearest point. See below. For the convenience of your pharmacist, jobbers are stocked. If you prescribe, be sure to specify "Abbott's," thus guarding against worthless imitations.

A trial sample of the various tablets listed, accompanied by literature in detail, will be sent on request.

### THE ABBOTT LABORATORIES

CHICAGO - NEW YORK

SEATTLE

SAN FRANCISCO

LOS ANGELES

TORONTO

BOMBAY

## MANY A SUCCESSFUL PHYSICIAN

has learned from practical experience to  
appreciate the therapeutic efficiency of

# Gray's Glycerine Tonic Comp.

FORMULA DR. JOHN P. GRAY

Its prompt effect on the appetite, digestion  
and nutrition can be confidently relied upon.

If you are not personally familiar with the remarkable  
tonic properties of "Gray's" write for  
special six-ounce sample.

### CONSTITUENTS

Glycerine  
Sherry Wine  
Gentian  
Taraxacum  
Phosphoric Acid  
Carminatives

**DOSAGE—ADULTS:** Two to four teaspoon-  
fuls in a little water before meals three or  
four times daily.

**CHILDREN—**One-half to one teaspoonful in  
water before meals.

### INDICATIONS

Auto-Intoxication  
Atonic Indigestion  
Anemia  
Catarrhal Conditions  
Malnutrition  
Nervous Ailments  
General Debility

THE PURDUE FREDERICK CO., 135 CHRISTOPHER STREET, NEW YORK.

## Bureau of Chemistry, U. S. Department of Agriculture:

"The spurious aspirin is a mixture of either calcium phosphate and starch, cream of tartar and citric acid with some alum; or milk sugar, starch and calcium acid phosphate."—(From N. Y. Health Dept. "Weekly Bulletin," Nov. 6, 1915.

By Specifying

# Bayer-Tablets

AND

# Bayer-Capsules

OF

# ASPIRIN

(5 grs. each)

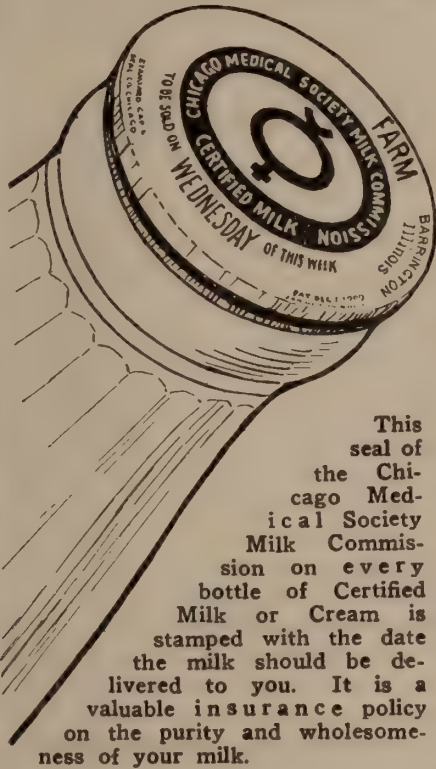
You Avoid Counterfeits

"Be Sure of Your Aspirin"

"Recent seizures in various cities of the country of numerous quantities of spurious aspirin make it important that the druggist should assure himself in all cases of the reliability of the source of his supply."—Pacific Drug Rev., Feb., 1916.

The trade-mark  
"Aspirin" (Reg.  
U. S. Pat. Office)  
is a guarantee  
that the monoa-  
cetic acid ester of  
salicylic acid in  
these tablets is of  
the reliable Bayer  
manufacture.





# Certified Milk Is PURE Milk

and every drop is clean.

Certified to by the Chicago Medical Society Milk Commission, under whose rigid inspection every drop of Certified Milk is produced.

Clean and proper feed, clean cows, clean milkers, clean barns, sterilized bottles sealed and kept in ice at 45° until delivered at your door. **EVERY STEP OF EVERY DROP** of Certified Milk keeps it clean and pure from the cow's feed right up to your door.

Nothing is done to Certified Milk except keep it pure. It is never mixed with other milk—it is never treated in any way. It is the product of pure food fed to healthy cows, sealed and packed in ice and delivered at your door the same day or the next.

## Certified Milk



*Is Safe for Family Use.*

*Is Safe for Infants and Invalids.*

*Is Safe for Everybody All the Time.*

*Costs More, but is worth it.*



# The Specific Treatment of Lobar Pneumonia

Immune serum treatment in lobar pneumonia has passed the purely experimental stage.

Lobar pneumonia is caused chiefly by the pneumococcus, of which there are three different fixed types. Antipneumococcic Serum prepared by the Mulford Laboratories is obtained from horses which have been injected with the three fixed types of the pneumococcus.

Forty per cent of all cases of lobar pneumonia are caused by type 1, and lobar pneumonia caused by this type is the most amenable to serum treatment, while types 2 and 3 are less amenable to serum treatment. Antipneumococcic Serum Polyvalent Mulford is highly potent in its protective power against lobar pneumonia caused by pneumococcus type 1, and also contains antibodies to the other types—2 and 3.

Intravenous injection of 50 to 200 c.c. is advocated by prominent authorities to insure immediate action.

**Antipneumococcic Serum Polyvalent Mulford** is furnished in syringes of 20 c.c. each, and in ampuls of 50 c.c. for intravenous injection.

Further information sent on request.

---

**Pneumo-Serobacterin Mulford** is an efficient prophylactic agent against lobar pneumonia. Wright suggests doses of 1000 million pneumococci, followed by subsequent doses of 1000 million, for prophylactic purposes.

Pneumo-Serobacterin Mulford is supplied in packages of four graduated syringes, A, B, C, D strength, and in syringes of D strength separately.

Syringe A 250 million killed sensitized bacteria  
Syringe B 500 million killed sensitized bacteria  
Syringe C 1000 million killed sensitized bacteria  
Syringe D 2000 million killed sensitized bacteria

---

**H. K. MULFORD COMPANY, Philadelphia, U. S. A.**

Manufacturing and Biological Chemists

23424



# Doctors!

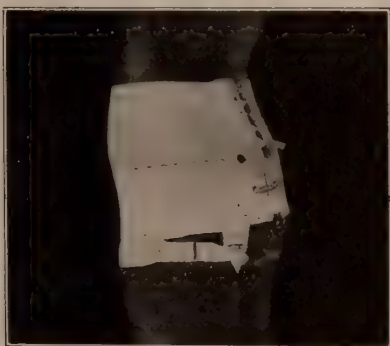
If you see the "adv."  
in the Journal the  
advertiser is reliable.

Buy from our  
Advertisers

and make your Jour-  
nal the best paying  
as well as the best  
reading Journal.

## The STORM Binder and Abdominal Supporter

PATENTED



### SACRO-ILIAC BELT

No Whalebones. No Rubber Elastic.  
Washable as Underwear

High and Low Operations, Hernia,  
Relaxed Sacro-iliac Articulations,  
Floating Kidney, Obesity, Preg-  
nancy, Ptoxis, Pertussis, etc.

Send for illustrated folder and Testimonials of Physicians.  
Mail Orders filled within Twenty-four Hours.

KATHERINE L. STORM, M. D.  
1541 Diamond St., PHILADELPHIA, PA.

## 50% Better Prevention Defense Indemnity

1. All claims or suits for alleged civil malpractice, error or mistake, for which our contract holder,
  2. Or his estate is sued, whether the act or omission was his own
  3. Or that of any other person (not necessarily an assistant or agent),
  4. All such claims arising in suits involving the collection of professional fees,
  5. All claims arising in autopsies, inquests and in the prescribing and handling of drugs and medicines.
  6. Defense through the court of last resort and until all legal remedies are exhausted.
  7. Without limit as to amount expended.
  8. You have a voice in the selection of local counsel.
  9. If we lose, we pay to amount specified, in addition to the unlimited defense.
  10. The only contract containing all the above features and which is protection per se.
- A Sample Upon Request

The  
MEDICAL PROTECTIVE COMPANY  
of Ft. Wayne, Indiana.

Professional  
Protection, Exclusively

## Laboratory Analyses of all Kinds

### Wassermann Test

Controlled by the best method,  
giving most reliable data of all sero-  
logical tests for syphilis.

### Hecht-Gradwohl Test

COMPLETE URINE ANALYSIS,  
COMPLETE BLOOD CHEMICAL  
ANALYSIS (urea nitrogen, uric acid,  
creatinine, sugar, in blood.)



**Pasteur Treatment for Rabies**  
(18 doses, with glass syringe and needles)

We supply containers and literature free on demand. We have methods of enabling us to receive blood sent from a distance in good shape for chemical analysis. Write us for Free Booklet on Blood Chemistry.

## Gradwohl Biological Laboratories

R. B. H. GRADWOHL, M. D., Director

928 Grand Ave.

St. Louis, Mo.

ESTABLISHED 1893

## Columbus Medical Laboratory

31 N. STATE ST., CHICAGO

ADOLPH GEHRMAN, Pres.

Send your *pathologic specimens* to us for diagnosis.  
We can assure you a valuable and prompt service.  
Write for instructions and fee table.  
Let us make complete examinations in *post-mortem*  
studies.

Ask for advice in cases of *suspected poisoning* and  
toxicological work

Consult us when you have *medico-legal cases*.

**COLUMBUS MEDICAL LABORATORY**

Columbus Memorial Building

CHICAGO, ILL.





# CHICAGO LABORATORY

CLINICAL ANALYTICAL

Marshall Field Annex Bldg.

Established 1904

25 EAST WASHINGTON STREET

Telephone Randolph 3610

CHICAGO

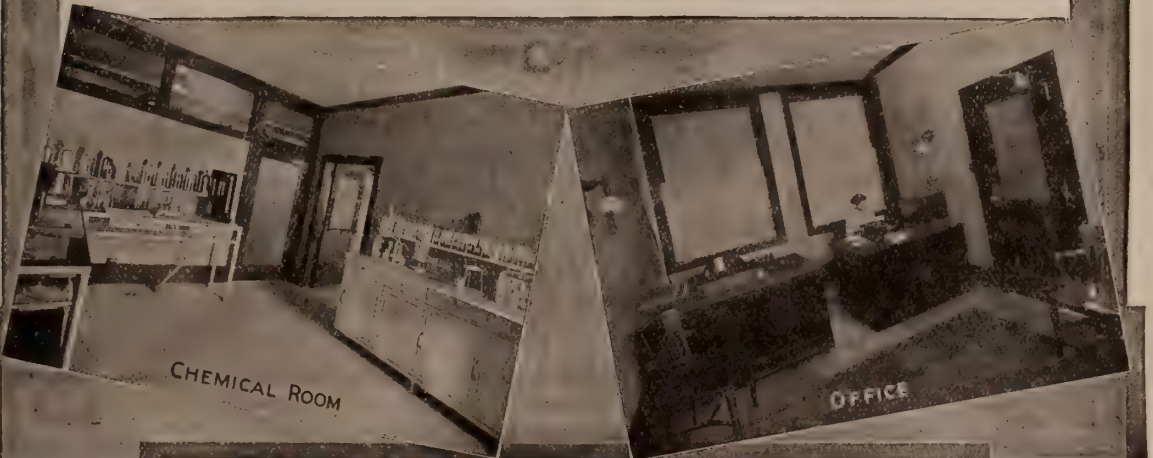
## Complement Fixation

In chronic arthritic cases a Complement Fixation Test for Gonorrhea is often of value in establishing a correct diagnosis.

Send for containers and instructions how to obtain the blood for this test.

*Our names and reputations stand back of our work*

RALPH W. WEBSTER, M.D., Ph.D. Director of Chemical Department  
 THOMAS L. PAGE, M.D., Director of Pathological Department  
 C. CHURCHILL CROY, M.D., Director of Bacteriological Department



# Chicago Pasteur Institute

26th YEAR

812 NORTH DEARBORN STREET

CHICAGO

FOR THE PREVENTIVE TREATMENT OF HYDROPHOBIA

ANTONIO LAGORIO, M.D. LL.D., Medical Director

G. B. BRUNO, M.D., Associate Director

FRANK A. LAGORIO, M.D., Associate Director

**Announcement**—When patients are unable to come to  
Institute, we can furnish physicians  
our course of Pasteur treatment by mail, in the State of Illinois.  
Telephone Superior 973.

*N. B.—We have no branches and the use of our name is unauthorized.*

WASSERMANN

CHEMICAL

HISTO-PATHOLOGICAL

Prices EQUAL TO THE REST

## LABORATORY OF HYGIENE, PATHOLOGY AND BACTERIOLOGY

DR. MAXIMILIAN HERZOG

DR. MEYER D. MOLEDEZKY

1604 MALLERS BUILDING

5 SOUTH WABASH AVE., CHICAGO

PHONES RANDOLPH 5794-5795

Work EQUAL TO THE BEST and BETTER THAN THE REST

VACCINES

MICROSCOPICAL

BACTERIOLOGICAL

# Swan's Rheumatic Bacterin

MADE from a number of strains of Streptococcus  
obtained by blood cultures from cases of acute  
and chronic Arthritis.

The most specific treatment for arthritic condi-  
tions known to modern medicine.

In 20 c. c. (Mil.)

Rubber

Stoppered Vials

**\$3.00**

Literature and complete directions  
with each stock package.

## SWAN-MYERS COMPANY

*Pharmaceutical and Biological Laboratories*

INDIANAPOLIS, IND., U. S. A.



# The Danville Radium Institute

Nos. 301-303 The Temple Building  
DANVILLE, ILLINOIS

Telephone 502

---

☐ Malignant and Benign Growths,  
Uterine Hemorrhages, Skin and  
Facial Blemishes treated with  
Radium.

☐ Prophylactic Post-Operative treat-  
ments.

☐ In all referred cases, personal con-  
sultation with the family physician  
or surgeon invited.

---

**STEPHEN C. GLIDDEN, M. D.**  
**DIRECTOR**

Member of The Radium Association of America

# SILVOL

**A Powerful Non-Toxic, Non-Irritating Germicide for the Treatment of Infections of Mucous Membranes.**

Contains approximately 20 per cent. of metallic silver. Freely soluble in water; no sediment on standing. Does not coagulate albumin; is not precipitated by proteids or alkalies. Its germicidal power has been conclusively demonstrated clinically. Indicated in the treatment of

Conjunctivitis,  
Corneal Ulcer,  
Trachoma,  
Rhinitis,  
Sinus Infections,

Otitis Media,  
Pharyngitis,  
Tonsillitis,  
Laryngitis,  
Gonorrhea (all stages),

Cystitis,  
Posterior Urethritis,  
Vaginitis,  
Cervical Erosions,  
Endometritis, Etc.

Used in aqueous solutions of 5 to 50 per cent.

POWDER: Bottles of one ounce.

CAPSULES (6-grain): Bottles of 50.

Contents of two capsules make one-fourth ounce of a 10-per-cent. solution.

◆ ◆ ◆

SILVOL OINTMENT (5 per cent.), for application to regions where the use of an aqueous antiseptic solution is not feasible. Small and large collapsible tubes with elongated nozzle.

LITERATURE WITH EACH PACKAGE.

Home Offices and Laboratories,  
Detroit, Michigan.

PARKE, DAVIS & CO.

# GERMICIDAL SOAP

**Antiseptic. Disinfectant. Deodorant. Sterilizer. Lubricant. Cleanser.**

Germicidal Soap combines the powerful antiseptic mercuric iodide with a soap made from pure vegetable oils.

## A FEW SUGGESTIONS.

To prepare antiseptic solutions.  
To sterilize hands, instruments and site of operation.  
To cleanse wounds, ulcers, etc.  
To lubricate sounds and specula.  
To destroy infecting organisms in skin diseases.  
To disinfect surface lesions.

To control the itching of skin infections.  
To make solutions for the vaginal douche.  
To counteract the odors of offensive hyperidrosis.  
To destroy pediculi.  
To cleanse the hair and scalp.  
To remove and prevent dandruff.  
To disinfect vessels, utensils, etc.

Germicidal Soap does not attack nicked or steel instruments. It does not coagulate albumin.

Germicidal Soap, 2% (contains 2% of mercuric iodide): large cakes, one in a carton.

Germicidal Soap, Mild, 1%: large cakes, one in a carton; small cakes, five in a carton.

For other forms see our catalogue.

SPECIFY "P. D. & Co." WHEN ORDERING.

Home Offices and Laboratories,  
Detroit, Michigan.

PARKE, DAVIS & CO.



# • IODÉOL • INJECTABLE IODINE

The **ONLY** Electro-  
Colloidal Iodine



**WHEN ORDERING,  
SPECIFY EXACT  
FORM NEEDED:**

**Iodeol:** 1 cc Ampoules (20% susp.) for intramuscular injection; 4-grain Capsules (25% susp. — internal); 15½-gm. and 45-gm. Vials (50% susp. — external); Ovules (25% susp. — gynecological).

**Iodagol:** 2 cc Ampoules (25% susp.) and Vials of 20-gm. and 45-gm. (25% susp.) for urethral injection.

**Iodagol Dressing:** Vials of 20-gm. and 45-gm. (25% susp.) for wounds and open surfaces.

Iodine, "the safest and most potent of all antiseptics," reduced to the colloidal state and rendered non-irritating, non-caustic, non-cumulative and non-toxic, capable of exercising unrestrictedly its exceptional powers, internally and externally, in its wide range of usefulness. Clinical observations prove the great therapeutic value of Iodéol in the treatment of

## PULMONARY AND BRONCHIAL AFFECTIONS

(Acute and Chronic)

Acute Infectious Diseases, Glandular Diseases, Syphilis, etc., etc., etc.

*We shall be very glad to send you the literature on request*

**CAUTION:** There is but **ONE** Electro-COLLOIDAL Iodine on the market and that is manufactured by **Viel**. **ALL OTHERS ARE IMPOSTERS.**



# ILLINOIS STATE MEDICAL SOCIETY

## SECTION OFFICERS AND COMMITTEES

**SECTION ONE**  
Frederick Tice, Chairman.....Chicago  
C. Martin Wood, Secretary.....Decatur

**SECTION TWO**  
James H. Finch, Chairman.....Champaign  
John S. Nagel, Secretary.....Chicago

**SECRETARY'S CONFERENCE**  
H. B. Henkel, Chairman.....Springfield

Osstella Blakely, Secretary.....Fairfield

**SECTION ON PUBLIC HEALTH AND HYGIENE**  
G. F. Ruediger, Chairman.....La Salle  
Grace H. Campbell.....Chicago

**SECTION ON EYE, EAR, NOSE AND THROAT**  
R. J. Tivnen, Chairman.....Chicago  
J. Sheldon Clark, Secretary.....Freeport

## COUNTY SOCIETIES

This list is corrected in accordance with the best information obtainable at the date of going to press. County Secretaries are requested to notify The Journal of any changes or errors.

**Adams County**  
Dan G. Stine, Pres.....Quincy  
Elizabeth B. Ball, Secy.....Quincy

**Alexander County**  
W. F. Grinstead, Pres.....Cairo  
H. A. Davis, Secy.-Treas.....Cairo

**Bond County**  
W. T. Easley, Pres.....Greenville  
J. C. Wilson, Secy.....Greenville

**Boone County**  
Geo. Markley, Pres.....Poplar Grove  
H. E. Delavergne, Secy.....Belvidere

**Brown County**  
D. R. Peters, Pres.....Timewell  
E. C. Allworth, Secy.-Treas.....Mt. Sterling

**Bureau County**  
C. C. Barrett, Pres.....Princeton  
H. R. Carson, Secy.....Princeton

**Calhoun County**  
W. A. Skeel, Pres.....Kampsville  
J. H. Peisker, Secy.....Hardin

**Carroll County**  
W. W. McGrath, Pres.....Savanna  
R. B. Rice, Secy.-Treas.....Mt. Carroll

**Cass County**  
C. E. Soule, Pres.....Beardstown  
W. R. Blackburn, Secy.....Virginia

**Champaign County**  
J. H. Finch, Pres.....Champaign  
Wm. V. Secker, Secy.....Champaign

**Christian County**  
R. C. Danford, Pres.....Pana  
S. B. Herdman, Secy.....Taylorville

**Clark County**  
S. W. Weir, Pres.....West Union  
S. C. Bradley, Secy.....Marshall

**Clay County**  
C. E. Duncan, Pres.....Flora  
R. D. Finch, Secy.....Flora

**Clinton County**  
J. A. Bauer, Pres.....Germantown  
J. Q. Roane, Secy.....Carlyle

**Coles County**  
Edmund Summers, Pres.....Mattoon  
R. H. Craig, Secy.....Charleston

**Cook County**  
Chas. J. Whalen, Pres.....Chicago  
C. E. Humiston, Secy.....Chicago

(Continued on page 29)



## THE OTTAWA TUBERCULOSIS COLONY

OTTAWA, ILL.

is devoid of the "institutional atmosphere."  
It is designed and conducted to meet the  
requirements of patients who demand



### Privacy and Individual Attention

*Special consideration is given  
to Quality of Service*

Rates \$22.00 to \$35.00 per week

H. V. PETTIT, Supt.

OTTAWA

ILLINOIS



## Chicago Fresh Air Hospital

(FOR TUBERCULOSIS)

*At Rogers Park, Chicago, Illinois*

Patients received in *all* stages of Pulmonary Consumption.  
Private Rooms and Board, \$25.00 per week.  
Open Porch and two-bed Rooms, with Board, \$14.00.

**Tuberculin Treatment**  
**Artificial Pneumo-Thorax**

**DR. ETHAN A. GRAY,**

*Medical Superintendent.*

## THE POTTENGER SANATORIUM

MONROVIA, CALIFORNIA

FOR DISEASES OF THE LUNGS AND THROAT



A thoroughly equipped institution for the scientific treatment of tuberculosis. High class accommodations. Ideal all-year-round climate. Surrounded by orange groves and beautiful mountain scenery, 45 minutes from Los Angeles.

F. M. POTTENGER, A.M., M.D. LL.D.,  
Medical Director.

J. E. POTTENGER, A.B., M.D., Assistant  
Medical Director and Chief of Laboratory.

GEORGE H. EVANS, M.D. San Francisco,  
Medical Consultant.

For Particulars, Address THE POTTENGER SANATORIUM, Monrovia, California  
LOS ANGELES OFFICE, 1100-1101 TITLE INSURANCE BUILDING, FIFTH AND SPRING STREETS



## EDWARD SANATORIUM

For the Treatment of Incipient Pulmonary Tuberculosis  
NAPERVILLE, ILLINOIS



Established 1907. Attractive surroundings. Large grounds. Open-air sleeping cottages and Infirmary with all appointments necessary for the comfort of the patients.

Modern hygienic-dietetic methods of treatment. Medical and laboratory facilities. Resident physicians and trained nurses.

**Tuberculin Treatment and Artificial Pneumothorax in suitable cases**

*For detailed information, rates and rules of admission, apply to*

**CHICAGO TUBERCULOSIS INSTITUTE, 8 South Dearborn Street, Room 1212, CHICAGO, ILL.**



On Main Line Chicago, Milwaukee & St. Paul Railway  
30 Miles West of Milwaukee

## Oconomowoc Health Resort

OCONOMOWOC, WISCONSIN

**For Nervous and Mild Mental Diseases**

**Building New, Most Approved Fireproof Construction**

**ARTHUR W. ROGERS, M.D., Resident Physician in Charge**  
LONG DISTANCE TELEPHONE

Built and equipped to supply the demand of the neurasthenic, borderline and undisturbed mental case for a high class home free from contact with the palpable insane, and devoid of the institutional atmosphere. Forty-one acres of natural park in the heart of the famous Wisconsin Lake Resort Region. Rural environment, yet readily accessible. The new building has been designed to encompass every requirement of modern sanitarium construction, the comfort and welfare of the patient having been provided for in every respect. The bath department is unusually complete and up-to-date. Number of patients limited, assuring the personal attention of the resident physician in charge.

*Trains meet at Oconomowoc on request.*

## The Norbury Sanatorium

JACKSONVILLE --- ILLINOIS

*Established by Dr. Frank P. Norbury, 1901*

**Incorporated and Licensed**

**"Maplewood" — "Maplecrest"**

**Capacity Forty Beds**

**P**PRIVATE RESIDENTIAL HOMES for the treatment of Nervous and Mental Disorders. Especial attention given to the treatment, by approved modern methods, of the Psychoneuroses, Exhaustion states and selected Psychoses and addiction cases.

**Dr. FRANK P. NORBURY,**  
Medical Director. (Late  
Allenist, State Board of Ad-  
ministration. Formerly  
Supt. Kankakee State Hos-  
pital.)

**Dr. ALBERT H. DOLLEAR**  
Superintendent (Late  
Clinical Asst., State Psycho-  
pathic Institute, Kankakee,  
Formerly Asst Supt., Water  
town State Hospital.)

Address all communications, **THE NORBURY SANITARIUM, 806 South Daimond Street, JACKSONVILLE, ILLINOIS**  
Springfield Office, DR. FRANK P. NORBURY, 407 South Seventh Street, by appointment

# Kenilworth Sanitarium

(Established 1905)

## KENILWORTH, ILLINOIS

(C. & N.-W. Railway. Six miles north of Chicago)

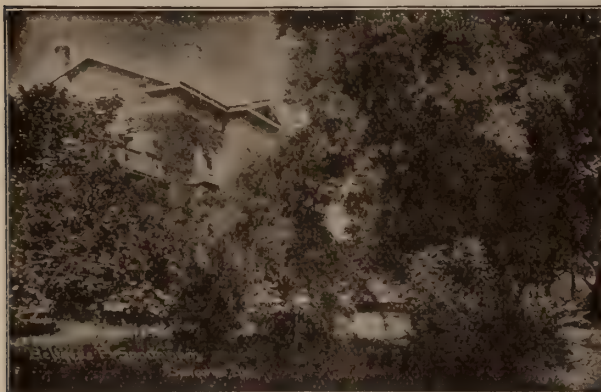


All correspondence should be addressed to Kenilworth Sanitarium, Kenilworth, Illinois

Built and equipped for the treatment of nervous and mental diseases. Approved diagnostic and therapeutic methods. An adequate night nursing service maintained. Sound proof rooms with forced ventilation. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.

### Resident Medical Staff

Margaret S. Grant, M. D., Sherman Brown, M. D.,  
Sanger Brown, M. D.,  
Chicago Office: 59 E. Madison Street,  
Telephone: Randolph 5794 Hours: 11 to 1, by appointment only



Established 1867

# BELLEVUE SANITARIUM

BATAVIA, ILLINOIS  
near CHICAGO

*For Nervous and Mental Diseases  
of Women Only*

Restful, homelike and accessible. Treatment modern,  
scientific and ethical.

TERMS MODERATE.

WRITE FOR BOOKLET



# The Hygeia Hospital

Formerly  
The Hygeia Sanitarium

Is the only institution in the Middle West

**exclusively treating Drug and Alcohol Addiction**  
by the method given to the medical profession through the Journal A. M. A., June, 1913.

Patients freed from their habit and craving without suffering or publicity. By means of clinical and laboratory examinations, the treatment is adapted to the condition of the individual.

A fixed charge is made, covering all ordinary expenses. Reprints and other information sent on request.

Wm. K. McLaughlin, M. D.  
Med. Supt.

2715 Michigan Boulevard  
CHICAGO, ILL.



BUILDING ABSOLUTELY FIRE-PROOF

# Waukesha Springs Sanitarium

FOR THE CARE AND TREATMENT OF

**NERVOUS DISEASES**

BYRON M. CAPLES, M.D., Superintendent

Waukesha

::

Wisconsin



# NEURONHURST

Dr. W. B. Fletcher's Sanatorium



**For Treatment of Mental and Nervous Diseases, Including Legally Committed and Voluntary Cases**  
Well equipped with all facilities for the care and treatment of all forms of mental and nervous diseases, inebriety, drug addiction and those requiring recuperation and rest. Gynecological department is in charge of skilled women physicians. All approved forms of Hydrotherapy, Balneotherapy, Massage, Swedish Movements, etc. All forms of Electrical Treatments. Phototherapy. High Frequency and X-Ray work. A strictly ethical institution. Correspondence with physicians invited. For particulars and terms, address:  
**DR. MARY A. SPINK, Superintendent.** Long Distance Telephones **1140 E. Market St., INDIANAPOLIS**

## DR. SIDNEY D. WILGUS

Retiring Superintendent of Kankakee State Hospital, also former Superintendent of Elgin State Hospital.

### Begs to Announce

**that he has purchased a Sanitarium at Rockford, Ill. (The Ransom)**

and is prepared to give personal care and attention to mental and nervous cases and drug addictions. Modern features having been added, the equipment is qualified to give up-to-date treatment. Also tennis, croquet, boating, and other out-door exercises are prescribed. A nine-hole golf course is near by. Correspondence solicited, or, to save time, telephone: Long Distance, Rockford 3767, and reverse the charges. On request patients are met at any train with an automobile.

**Mail address, DR. SIDNEY D. WILGUS, Box 304, Rockford, Ill.**

**Chicago Office. Thursday Mornings until 12 at Suite 1603, 25 E. Washington St.**

**And by appointment**



ENTRANCE

WEST HOUSE

OFFICE AND BATH HOUSE

PSYCHOPATHIC HOSPITAL

GYMNASIUM

Established  
in 1884

## THE MILWAUKEE SANITARIUM

For Mental and Nervous Diseases

Wauwatosa,  
Wis.

Located at Wauwatosa (a suburb of Milwaukee) on C., M. & St. P. Ry., 2½ hours from Chicago, 15 minutes from Milwaukee, 5 minutes from all cars. Two lines street cars. Complete facilities and equipment as heretofore announced. ¶ Psychopathic Hospital: Continuous baths, fireproof building, separate grounds. ¶ West House: Rooms en suite with private baths. ¶ Gymnasium and Recreation Building: Physical culture, "Zander" machines, shower baths. ¶ Modern Bath House: Hydrotherapy, Electrotherapy, Mechanotherapy. ¶ 30 acres beautiful hill, forest and lawn. Five houses. Individual treatment. Descriptive booklet will be sent upon application.

**RICHARD DEWEY, A. M., M. D.**

**EUGENE CHANEY, A. M., M. D.**

**WILLIAM T. KRADWELL, M. D.**

CHICAGO OFFICE: Marshall Field Annex, 25 E. Washington Street, Room 1823. Wednesdays 1 to 3 P.M. (except in July and August) Tel. Central 1162.  
MILWAUKEE OFFICE: Goldsmith Building, Room 504. Consultation by appointment. Tel. Main 61.  
TELEPHONE SANITARIUM OFFICE: Milwaukee—Wauwatosa 16.



## The Cincinnati Sanitarium For Mental and Nervous Diseases

Incorporated 1873

A strictly modern hospital fully equipped for the scientific treatment of nervous and mental affections. Situation retired and accessible. For details write for descriptive pamphlet.

F. W. Langdon, M. D., Medical Director

B. A. Williams, M. D., Resident Physician

Emerson A. North, M. D., Resident Physician

H. P. COLLINS, Business Manager, Box No. 4, College Hill, Cincinnati, Ohio



ABSOLUTELY FIREPROOF BUILDING

LESS THAN THREE HOURS FROM CHICAGO

## Mud Baths

For the treatment of RHEUMATISM, Nervousness, Kidney, Liver and Skin Diseases, and all ailments requiring elimination and relaxation. Location beautiful; climate healthful; 80 acres of private grounds.

DR. AUGUSTUS S. GILLES, Medical Director

*Correspondence with physicians solicited*

For rates, literature and reservations, address

**Waukesha Moor (Mud) Bath Co.**  
WAUKESHA, WISCONSIN

## Burr Oak Sanatorium For the Treatment of Tuberculosis WHEATON, ILL.

A small home-like Sanatorium devoid of the institutional atmosphere. Beautiful grounds and surroundings; conscientious, individual attention. Fresh milk and eggs from the farm. Excellent table. Rates \$9.00 per week.

D. C. MOULDING, M.D., Physician-in-Charge

Chicago Office, Room 340, 440 So. Dearborn St.

Hours: 12 to 2 P. M., Mondays and Wednesdays

## The Peoria Mud Baths

We insist that your patients can eliminate as freely and as effectually in Illinois as in any other State in the Union.

Strict ethical relations. Thoroughly equipped. Have had thousands of patients.

DR. T. W. GILLESPIE, Medical Supt.

**SULPHUR SPRINGS SANITARIUM**  
215-217 N. Adams St. Peoria, Illinois





# DR. WEIRICK'S SANITARIUM

FORMERLY DR. BROUGHTON'S SANITARIUM  
ESTABLISHED IN 1901

**For Opium, Morphine  
Cocaine and Other Drug  
Addictions, Including  
Alcohol and Special  
Nervous Cases**

Methods easy, regular, humane.  
Good heat, light, water, help, board,  
etc. Number limited to 44. A well  
kept home. Nervous-Mental De-  
partment in charge of Dr. W. L.  
Ransom. Address

**DR. G. A. WEIRICK**  
SUPERINTENDENT

**2007 South Main Street**

Rockford Phone 536 Illinois

## PETTEY & WALLACE 958 S. Fifth Street MEMPHIS, TENN. SANITARIUM



FOR THE TREATMENT  
OF

**Drug Addiction, Alcoholism,  
Mental and Nervous Diseases**

A quiet, home-like, private, high-  
class institution. Licensed. Strictly  
ethical. Complete equipment. Best  
accommodations.

Resident physician and trained  
nurses.

Drug patients treated by Dr.  
Petty's original method.

Detached building for mental  
patients.

# The Peoria Sanatorium

A private Sanatorium for the treatment of Nervous and Mental Diseases,  
by modern methods. Flowing Sulphur Spring. Licensed by the State.

**DRUG AND LIQUOR HABITS TREATED**

WRITE FOR BOOKLET

**Director, DR. GEO. W. MICHELL**

**PHONE MAIN 225.**

**Address, 106 N. Glen Oak, PEORIA, ILL.**

# OIL OF THUJA COMPOUND

(N. B. & CO.)

**Active Constituents:** Oil of Thuja, Oil of Cajuput, Oil Sesame, Oil Persica

Oil of Thuja has obtained considerable reputation as an absorbent of adenoid or lymphoid tissue, and in the treatment of hypertrophies of the mucous membrane of the nasal cavity and nasopharynx, especially in children.

**Oil of Thuja Compound N. B. & CO.** combines oil of Thuja with other oils having a similar therapeutic action, the preparation being non-irritant and non-toxic and designed to be applied directly to the parts affected by means of a nasal or post-nasal spray or, in the case of young children, by dropping it into the nostrils while the patient is sleeping or in a reclining position. Literature furnished to physicians upon request.

**NELSON, BAKER & CO.** Detroit Mich., Kansas City, Mo.

## AREND-ADAMICK DOUBLE KUMYSS

**AN IDEAL FOOD** for all conditions of enfeebled digestive power from any cause, malnutrition in infants or the aged—a sustaining diet during the course of acute infectious diseases and gastro-intestinal disorders  
**EASILY ASSIMILATED** and contains the elements essential for the nourishment of the organism.  
**A VALUABLE NUTRIENT** in Typhoid, Enteritis, Marasmus, Acute fevers, Gastric Ulcer, Anemia, Vomiting of Pregnancy, Asthenic fevers and during Convalescence.

Its taste is pleasantly acidulous—its enticing flavor is unusually acceptable to the capricious appetite of the sick—it may be used for days as an exclusive diet.

Booklet giving instructions and interesting clinical report, also price list, free on request.

**A. AREND DRUG COMPANY**

Manufacturing Chemists

182 West Madison Street, Chicago

## Preparedness is the Slogan of the Day. We are Prepared

to furnish promptly to the specialist in every branch of surgery the correct instrument and apparatus which are of such great assistance in the performance of the Surgeon's work



**V. MUELLER & CO.,** Makers of Surgeons' instruments, Hospital and Office Equipment 1771-1781 Ogden Ave., CHICAGO

Mention ILLINOIS MEDICAL JOURNAL when writing to advertisers.



# Chicago College of Medicine and Surgery

**MEDICAL  
DEPARTMENT OF  
VALPARAISO  
UNIVERSITY**



**702-706  
SO. LINCOLN ST.  
CHICAGO, ILL.**

**Main College Building and Willard Hospital**

This College has an enrollment of 500 students. The Laboratory and Hospital facilities are abundant.  
The Faculty consists of men who have distinguished themselves as medical educators.  
The College is not burdened with debts and is therefore able to expend all of its income upon the courses of instruction.  
The Calendar year is divided into three semesters of four months each. The Fall semester begins on the last Tuesday in September. The Winter semester begins on the first Monday in February. The Summer semester begins on the first Monday in May.

*For catalogue or further information address*

**J. NEWTON ROE, Secretary**

**706 S. Lincoln St., Chicago, Ill.**

## Chicago Eye, Ear, Nose and Throat College

**A Post-Graduate School for Prac-  
titioners of Medicine**

**235 W. Washington Street  
Chicago, Ill.**

**Catalogue on Application**

Buy from our advertisers.  
If they don't give as good  
or better value than others,  
kick to us—

***We'll do the rest'***

## Chicago Maternity Hospital and Training School for Nurses

**ACCOMMODATES 25 PATIENTS  
RATES: \$10.00 to \$25.00 PER WEEK**

Well infants cared for in nursery for \$5.00 per week.  
Training School for Obstetrical and Infants' nurses.

**Address**

**EFFA V. DAVIS, M.D., 2314 N. Clark St., Chicago**

## "BEVERLY FARM"

**Home and School for Nervous and Backward Children**

5 buildings, schools and gymnasium, 176 acres of land, 40 acres of timber, containing beautiful Camp Belle log cabin for recreation; separate buildings for boys and also children under 10 years of age. Thirty-six years experience. Consultations at home if desired. Publicity avoided. Address all communications to

**W. H. C. SMITH, M. D., Superintendent  
GODFREY, MADISON CO., ILLINOIS**

*"Beverly Farm" was awarded Grand Prize by Committee of Awards of the Louisiana Purchase Exposition*



## *Doctor, You Can't Afford to Have Your Car Laid Up for Repairs*

Polarine minimizes friction and repairs and adds power and life to your motor. Use Polarine and lubrication begins the minute your engine starts.

Polarine sales are increasing at the rate of one million gallons a year. Its use is recommended by the Standard Oil Company for any style or make of car.

# Polarine

FRICION REDUCING MOTOR OIL

is not only fair weather oil. It flows as freely at zero as at 100 degrees. It maintains the correct lubricating body at any motor speed or temperature.

Polarine is produced scientifically by acknowledged authorities who have made a life study of lubrication.

Order a half barrel today and protect your car investment.

**Standard Oil Company** (Indiana) **Chicago, U. S. A.**

Use Red Crown Gasoline and get more power, more speed, more miles per gallon



## BUYER'S INDEX

Abbott Laboratories.....	7
A. Arend Drug Co.....	24
Bayer Company.....	8
Bellevue Sanitarium.....	20
Bevely Farm School.....	25
Chicago College of Medicine and Surgery.....	25
Chicago Eye, Nose & Throat College.....	25
Chicago Fresh Air Hospital.....	18
Chicago Laboratory.....	13
Chicago Laboratory of Surgical Technique.....	12
Chicago Maternity Hospital.....	25
Chicago Med. Soc. Milk Com.....	32
Chicago Pasteur Institute.....	14
Cincinnati Sanitarium.....	22
College of Medicine, Univ. of Ill.....	25
Cocroft, Susanna.....	22
Columbus Medical Laboratory.....	12
Crittenton, Chas. N. Co.....	30
Danville Radium Institute.....	15
Edward Sanatorium.....	19
Fletcher's Sanatorium.....	21
Gradwohl Biological Laboratories.....	12
Harvey, G. F.....	17
Horlick's Malted Milk Co.....	2
Hygeia Hospital.....	20
Kenilworth Sanitarium.....	20
Laboratory of Hygiene, Pathology & Bacteriology.....	14
Lederle Antitoxin Laboratory.....	31
Medical Protective Co.....	11
Mead, Johnson & Co.....	4
Mellin's Food Co.....	6
Milwaukee Sanitarium.....	21
Mueller & Co., V.....	24

Mulford, H. K., & Co.....	10
Nelson, Baker & Co.....	24
Norbury Sanitarium.....	19
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Parke, Davis & Co.....	16
Pennoyer Sanitarium.....	6
Peoria Mud Baths.....	22
Peoria Sanatorium.....	23
Petty & Wallace's Sanitarium.....	23
Phillips Co., Chas. H.....	28
Pine Sanitarium.....	30
Pitman-Moore Co.....	4
Pottenger Sanatorium.....	18
Purdue, Frederick, Co.....	8
Pure Gluten Food Co.....	5
Quaker Oats Co.....	5, 29
Ransom Sanitarium.....	21
Riverside Sanitarium.....	24
Saunders Co., W. B.....	front cover
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Sherman, G. H., M. D.....	5
Standard Oil Co.....	3, 26
Storm, Katherine L., M. D.....	11
Sulphur Springs Sanitarium.....	23
Swan-Myers Co.....	14
Tilden Co., The.....	6
Waukesha Moor (Mud) Bath Co.....	22
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium.....	28

## INDEX TO ADVERTISERS

## ABDOMINAL SUPPORTERS

Storm, Katherine L., M. D.....	11
--------------------------------	----

## AUTOMOBILES, ETC.

Goodyear Tire & Rubber Co.....	25
Standard Oil Co.....	3, 30

## FOOD

Arend-Adamick Koumyss.....	24
Certified Milk.....	4
Horlick's Malted Milk Co.....	2
Mead, Johnson & Co.....	6
Mellin's Food Co.....	6
Pure Gluten Food Co.....	5, 29
Quaker Oats.....	5, 29

## HOSPITAL

Chicago Fresh Air Hospital.....	18
Chicago Maternity Hospital.....	25
Hygeia Hospital.....	20

## INVESTMENTS AND INSURANCE

Medical Protective Co.....	11
----------------------------	----

## LABORATORY

Abbott Laboratories.....	7
Chicago Laboratory.....	13
Chicago Laboratory of Surgical Technique.....	12
Columbus Medical Laboratory.....	12
Gradwohl Biological Laboratories.....	12
Laboratory of Hygiene, Pathology & Bacteriology.....	14
Swan-Myers Co.....	14

## MEDICAL BOOK PUBLISHERS

Saunders Co., W. B.....	front cover
-------------------------	-------------

## MEDICAL SCHOOLS

Chicago College of Medicine and Surgery.....	25
Chicago Eye, Ear, Nose & Throat College.....	25
College of Medicine, Univ. of Ill.....	25

## MUD BATHS

Peoria Mud Baths.....	22
Waukesha Moor (Mud) Bath Co.....	22

## PHARMACEUTICALS

Abbott Laboratories.....	7
Bayer Company.....	8
Crittenton, Chas. N. Co.....	30
Harvey, G. F.....	17
Hygeia Sanitarium.....	17
Kenilworth Sanitarium.....	20
Lederle Antitoxin Laboratory.....	31
Mead, Johnson & Co.....	4
Mulford, H. K., & Co.....	10
Nelson, Baker & Co.....	24
Parke, Davis & Co.....	16
Phillips Co., Chas. H.....	28
Pitman-Moore Co.....	4
Purdue, Frederick, Co.....	8
Sherman's Bacterins.....	5
Searle & Co., G. D.....	6
Sharp & Dohme.....	2
Swan-Myers Co.....	14
Tilden Co., The.....	6

## SANATORIA &amp; SANITARIA

Bellevue Sanitarium.....	20
Cincinnati Sanitarium.....	22
Edward Sanatorium.....	19
Fletcher's Sanatorium.....	21
Norbury Sanitarium.....	19
Milwaukee Sanitarium.....	21
Oconomowoc Health Resort.....	19
Ottawa Tuberculosis Colony.....	18
Pennoyer Sanitarium.....	6
Peoria Sanitarium.....	23
Petty & Wallace's Sanitarium.....	23
Pine Sanitarium.....	30
Pottenger Sanatorium.....	18
Ransom Sanitarium.....	21
Riverside Sanitarium.....	24
Sulphur Springs Sanitarium.....	23
Waukesha Springs Sanitarium.....	20
Weirick's Sanitarium.....	23

## SURGICAL INSTRUMENTS

Mueller & Co., V.....	24
-----------------------	----

IN PLACE OF OTHER ALKALIES USE

# Phillips' Milk of Magnesia

"THE PERFECT ANTACID"

For Correcting Hyperacid Conditions—Local or Systemic. Vehicle for Salicylates, Iodides, Balsams, Etc.

Of Advantage in Neutralizing the Acid of Cows' Milk for Infant and Invalid feeding.

## Phillips' Phospho-Muriate of Quinine

Compound

NON-ALCOHOLIC TONIC AND RECONSTRUCTIVE

With Marked Beneficial Action Upon the Nervous System. To be relied Upon Where a Deficiency of the Phosphates is Evident.

THE CHAS. H. PHILLIPS CHEMICAL CO.

NEW YORK

LONDON

### CONTENTS—Continued

#### ORIGINAL ARTICLES -Continued.

Intestinal Teniasis in Chicago. Wesley C. Becker, M. D., Chicago..... 416

#### EDITORIAL.

Merry Christmas..... 417  
Social Insurance Report..... 417  
Compulsory Health Insurance..... 417  
Chicago the Great Medical Center..... 418  
After-Treatment of Poliomyelitis..... 419  
Disease Control Run Riot..... 419  
Birth of a New Medical Society..... 419  
Marginal Alphabetical Index for Telephone Book..... 420  
Social Insurance..... 421

#### PUBLIC HEALTH.

After-Treatment of Poliomyelitis..... 444  
Certificate of Birth..... 445  
Milk Sickness in Jasper and Grundy Counties..... 445  
Standard Plans for Sanitaria..... 445  
Birth and Death Registration Improving..... 445  
Illinois Health Notes..... 445

#### AUTO SPARKS AND KICKS.

Anti-freezing Mixtures..... 447

#### SOCIETY PROCEEDINGS.

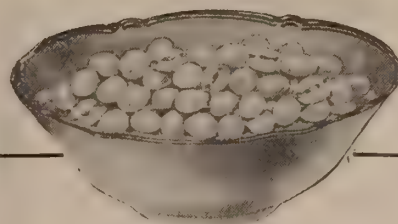
Cook County:  
Chicago Medical Society, Nov. 8, 15, 22, 29..... 448  
Chicago Ophthalmological Society, April 17..... 448  
De Kalb County, Oct. 27..... 450  
Henderson County, Nov. 14..... 451  
Madison County, Oct. 6..... 451  
Southern Illinois Medical Association, Nov. 2-3..... 451  
Personals ..... 452  
News Items..... 452  
Marriages ..... 454  
Deaths ..... 454  
New and Non-official Remedies..... 455  
Book Notices..... 455  
Index ..... Opposite 456  
Offices of State and County Societies..... Adv. page 17  
Index to Advertisements..... Adv. page 27  
Buyers' Index..... Adv. page 27



## COUNTY SOCIETIES—Continued.

Crawford County	
A. G. Brooks, Pres.....	Stoy
C. E. Price, Secy.....	Robinson
Cumberland County	
N. J. Hauton, Pres.....	Greenup
DeKalb County	
Paul E. N. Greeley, Pres.....	Waterman
J. B. Hagey, Secy.....	DePalb
De Witt County	
J. C. Myers, Pres.....	Clinton
Charles W. Carter, Secy.....	Clinton
Douglas County	
I. N. C. McKinney, Pres.....	Murdock
Walter C. Blaine, Secy.....	Tuscola
Du Page County	
(Affiliated with Cook County)	
Edgar County	
Wm. A. Buchanan, Pres.....	Paris
George H. Hunt, Secy.....	Paris
Edwards County	
C. S. Brannen, Pres.....	Albion
W. E. Buxton, Secy.....	West Salem
Effingham County	
Geo. Haumesser, Pres.....	Effingham
F. N. A. Hoffman, Secy.....	Effingham
Fayette County	
A. E. Greer, Pres.....	Brownstown
A. R. Whitefort, Secy.....	St. Elmo
Franklin County	
Wm. H. Smith, Pres.....	Benton
Edgar Austin, Secy.....	Benton
Fulton County	
J. C. Simmons, Pres.....	Canton
B. E. Ray, Secy.....	Cuba
Gallatin County	
J. W. Bowling, Pres.....	Shawneetown
A. B. Capel, Secy.....	Shawneetown
Greene County	
C. R. Thomas, Pres.....	Roodhouse
H. A. Chapin, Secy.....	White Hall
Grundy County	
Roscoe Whitman, Pres.....	Morris
F. C. Bowker, Secy.....	Morris
Hamilton County	
P. M. Nation, Pres.....	McLeansboro
I. M. Asbury, Secy.....	McLeansboro
Hancock County	
Blair Kelley, Pres.....	Ferris
S. M. Parr, Secy.....	Carthage
Hardin County	
W. J. J. Paris, Pres.....	Rosiclare
F. A. Jones, Secy.....	Rosiclare
Henderson County	
W. J. Emerson, Pres.....	Carman
J. P. Riggs, Secy.....	Media
Henry County	
Chas. F. Young, Pres.....	Geneseo
P. J. McDermott, Secy.....	Kewanee
Iroquois-Ford District	
Martha Anderson, Pres.....	Roberts
D. W. Miller, Secy.....	Gilman
Jackson County	
Harriet N. Daniel, Pres.....	Murphysboro
C. M. Thompson, Secy.....	Makanda
Jasper County	
W. E. Franke, Pres.....	Newton
James P. Prestley, Secy.-Treas.....	Newton
Jefferson County	
Todd P. Ward, Pres.....	Mt. Vernon
Andy Hall, Secy.....	Mt. Vernon
Jersey County	
A. A. Barnett, Pres.....	Jerseyville
H. R. Bohannon, Secy.....	Jerseyville
Jo Daviess County	
A. T. Nadig, Pres.....	Elizabeth
T. J. Stafford, Secy.....	Stockton
Johnson County	
C. D. Nobles, Pres.....	Buncombe
H. W. Walker, Secy.....	Grantsburg
Kane County	
A. E. Diller, Pres.....	Aurora
Robt. S. Denney, Secy.-Treas.....	Aurora
Kankakee County	
Joseph A. Guertin, Pres.....	Kankakee
C. F. Smith, Secy.....	Kankakee
Kendall County	
R. A. Schaefer, Pres.....	Plano
Robt. McClelland, Secy.....	Yorkville
Knox County	
A. C. Keener, Pres.....	Altona
G. S. Bower, Secy.....	Galesburg
Lake County	
John P. O'Neill, Pres.....	Highland Park
C. S. Ambrose, Secy.-Treas.....	Waukegan
La Salle County	
R. C. Fullenweider, Pres.....	La Salle
E. E. Perisho, Secy.....	Streator

(Continued on page 32)



## Actually Shot from Guns

Puffed Wheat and Puffed Rice are actually shot from guns. This is done to explode every food cell. The result is easy, complete digestion. Every atom of the whole grain feeds.

This is the process, invented by Prof. A. P. Anderson, formerly of Columbia University.

The grains are sealed in guns. The guns are revolved for sixty minutes in a heat of 550 degrees.

This changes to steam the trifle of moisture which lies within each food cell. And a grain of wheat contains 125,000,000 of them.

When the guns are shot that steam explodes. Every food cell is thus blasted to pieces. The grains are puffed to bubbles, eight times normal size.

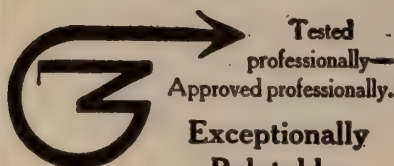
These are delicious whole-grain food, airy, flaky, toasted, crisp. But we talk them to you because they mean whole grains made wholly digestible. And that was never done before.

## The Quaker Oats Company

Chicago

(1415)

**Puffed Wheat, 12c**  
**Puffed Rice, 15c**  
**Corn Puffs, 15c** Corn Hearts Puffed  
*Except in Extreme West*



Physicians have been able to prescribe to advantage

## Hydroleine

in cases in which cod-liver oil is indicated. Hydroleine is pure Norwegian cod-liver oil emulsified in a manner which makes it extremely utilizable. It is without medicinal admixture. Sold by druggists.

**THE CHARLES N. CRITTENTON CO.**

115 Fulton Street, New York

Sample will be sent to physicians on request.

## READER!

are you buying your supplies from our advertisers?

Our advertising pages are your property as a member of the Illinois State Medical Society.

Advertisers will pay for space in proportion as you buy from them, and thus make the space valuable to them.

Order now, and write that you saw the "ad" in the JOURNAL.



*Resident Physician*

**James H. Appleman, M. D.**

**CONSULTING STAFF**

*Surgeon*

**Gustav M. Blech, M. D.**

104 South Michigan Ave.

*Genito-Urinary*

**Frank Wieland, M. D.**

122 South Michigan Ave.

*Internist*

**Walter B. Metcalf, M. D.**

25 East Washington St.

*Electro-Therapy*

**Emil H. Grubbe, M. D.**

130 North State Street

*Throat, Nose and Ear*

**Richard H. Street, M. D.**

25 East Washington St.

*Pathologist*

**W. Henry Wilson, M. D.**

3129 Rhodes Ave.

*Oculist*

**Carleton A. Harkness, M. D.**

29 East Madison St.

## Drug and Alcoholic Addictions Treated Exclusively

Our facilities for caring for this class of patients are unsurpassed. This sanitarium is conducted along high-grade ethical lines.

Fixed charge made to patient when accepted for treatment. No extras. Time required: Alcoholism, 3-7 days; Drug Addiction, 10-20 days. No Suffering. Booklet on either subject sent free upon request.

## The Pine Sanitarium

Established 1900

1919 Prairie Ave., Chicago, Illinois  
Local and Long Distance Telephone, Calumet 4543











*The New York Academy of Medicine*

THIS BOOK MUST NOT BE RETAINED FOR  
LONGER THAN ONE WEEK AFTER THE LAST  
DATE ON THE SLIP UNLESS PERMISSION FOR ITS  
RENEWAL BE OBTAINED FROM THE LIBRARY.

May 18 '35





